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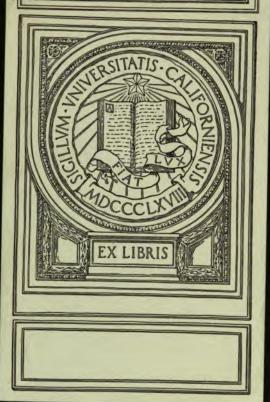
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BRITISH OFFICES LIFE TABLES

(1893).

TABLES

3

ERRATUM.

TEMPORARY ANNUITIES -0 PER CENT.

p. 63. a_{41.86}

For 19.652 read 16.652.

R

THE FACULTY OF ACTUARIES IN SCOTLAND.

LONDON:

CHARLES AND EDWIN LAYTON, 56, FARRINGDON STREET, E.C.

1902.

THE

INSTITUTE OF ACTUARIES' AND FACULTY OF ACTUARIES' JOINT COMMITTEE ON MORTALITY INVESTIGATION.

CHAIRMAN OF JOINT COMMITTEE:

R. P. HARDY.

LONDON SECTION.

T. G. ACKLAND. G. J. LIDSTON	NE.
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R. P. F.	IARDY.	W.]	J.	H.	WHITTALL,

C. D. HIGHAM.	r. D. WYAII.
G. King.	T. E. Young, B.A.

SCOTTISH SECTION.

D. DEUCHAR.	J.	MEIKLE.
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G. Douglas. T. B. Sprague, M.A., LL.D.

G. M. Low. S. C. Thomson, B.A.

A. H. TURNBULL.

GORDON DOUGLAS, Honorary Secretary of Scottish Section.

A. F. BURRIDGE, Honorary Secretaries of Joint Committee, and of London Section.

Prince 1.5 GIFT

INTRODUCTION.

THE Tables included in the present volume are based upon graduated Mortality Tables in respect of that principal section of the British Offices Life Tables, 1893, which represents the experience of Male Lives assured under Whole Life Participating Policies. They comprise the graduated full Aggregate Table—O^M—and the truncated Aggregate Table, excluding the experience of the first five years following the date of assurance—O^{M(5)}—with Monetary Tables at different rates of interest deduced from those Mortality Tables respectively. The O^{M(5)} Mortality Table, and the monetary and other values deduced from that Table, are throughout printed on tinted paper.

The OMG Table has been graduated by Mr. G. F. HARDY, by the application of Makeham's first modification of Gompertz's law, employing one set of constants throughout, the values of which are specified on page 105. The "Law of Uniform Seniority" therefore applies at all ages under this Table. Tables of Uniform Seniority are included on pages 244 to 251, from which equal ages can be deduced in respect of any two, three, or four joint lives, and on pages 254 to 275, values of annuities at such equal ages are tabulated at three rates of interest. It is hoped that the examples on page 252 will sufficiently illustrate and explain the use of these Tables of Uniform Seniority and of Annuities at equal ages.

The O^m Table has been adjusted by a method to which the "Law of Uniform Seniority" does not apply: the formula for the curve is given on page I. For this reason Tables of the values of annuities on two joint lives of all ages have been computed at different rates of interest, and are included in the present volume.

The Mortality by the O^M and O^{M(5)} Tables is identical after age 84; and the radix of the O^{M(5)} Table has been so taken as to produce, at the older ages, elementary values and deduced functions identical with those of the O^M Table. To the extent to which the figures are here tabulated, they are, in fact, identical under the two Tables at ages somewhat younger than 85.

In order to preserve consistency in the form of tabulation with the Select or Extended Mortality and Monetary Tables which are in course of preparation, the Joint Committee have decided to adopt throughout the Tables, the "open" or "initial" form of $N_x=D_x+D_{x+1}+\ldots$ and also of $S_x=N_x+N_{x+1}+\ldots$ A note has been added upon each page which includes these values or their logarithms, directing special attention to the form of tabulation adopted. The Expectations of Life as tabulated on pages 2, 3, 106 and 107, are throughout curtate.

The ratios of the annuities-due at each age, as deduced from comparison of the H^M or $H^{M(5)}$ Tables with the O^M or $O^{M(5)}$ Tables, are set out at three rates of interest on pages 210 to 212, and will, it is hoped, be found useful in enquiries as to the relations of the policy-values under those Tables. The notes appended to these Tables of Ratios illustrate their practical application in the cases specified.

The Select or Extended Mortality Table, based upon the SELECT data for Whole-Life Participating Assurances on Male Lives (also graduated by Mr. G. F. HARDY) and the Monetary values deduced therefrom, now in course of preparation, will be published in a separate volume. It is hoped also to include in that volume, an account of the processes and methods followed in the construction and graduation of the Mortality Tables, and an explanation of any special methods adopted in the computation of the Monetary Values deduced therefrom.

C. D. HIGHAM,
President of the Institute of Actuaries.

GEO. M. LOW,

President of the Faculty of Actuaries in

Scotland.

30th May, 1902.

SYNOPSIS OF TABLES.

			0	ON. FULL AGGREGATE TABLE	AGGREGA	TE TABLE			OM(8).	AGGREGAT	TABLE,	EXCLUDING	THE FIRE	OM(8). AGGREGATE TABLE, EXCLUDING THE FIRST FIVE YEARS' EXPERIENCE	ars' Expe	RIENCE
Functions Tabulated	lity			Rate of	f Interes	Rate of Interest per-cent			rlity 198			Rate of	Rate of Interest per-cent	per-cent		
•	Morta Tab	61	24	24	24	60	65 148	4	troM deT	61	23	1 2	23	ဇာ	33	4
I.—SINGLE LIVES.	pp.	pp.	Pp.	.dd	pp.	.dd	.dd	bb.	-dd	pp.	pp.	.dd	.dd	-dd	.dd	bb.
la, da, pa, qa, pa, ex	2-3	3	:	:	:		:	:	1-901	:	:	:	:	:	:	:
$\log l_x, \log d_x, \log p_x, \log \mu_x, \operatorname{col} l_x, \operatorname{col} p_x = 4-5$	4-5	:	*	:	:	:	*	:	108-9	- :	:	:	:	:	:	:
Dx, Nx, Sx, Cx, Mx, Rx	3	8-9	11-91	24-25 42-43	42-43	52-53	70-71	88-89		112-13	120-21	128-29	146-47	112-13 120-21 128-29 146-47 156-57 174-75 192-93	174-75	192-93
$\begin{array}{c} \log \mathrm{D}_x, \log \mathrm{N}_x, \log \mathrm{C}_x, \log \mathrm{M}_x \\ \operatorname{col} \mathrm{D}_x, \operatorname{col} \mathrm{N}_x, \operatorname{col} \mathrm{C}_x, \operatorname{col} \mathrm{M}_x \end{array} \right)$:	10-11	0-11 18-19	26-27 44-45 54-55	44-45		72-73	16-06	:	114-15	122-23	130–31	148–49	114-15 122-23 130-31 148-49 158-59 176-77 194-95	11-911	194–95
a_x, A_x, P_x	:	12-13	2-13 20-21	28-29	46-47	28-29 46-47 56-57	74-75	92-93	:	11-911	124-25	132-33	150-51	116-17 124-25 132-33 150-51 160-61 178-79 196-97	64-841	16-961
$\log \mathbf{e}_x$, $\log A_x$, $\log P_x$:	12-13	2-13 20-21	30-31 48-49	48-49	58-59	11-91	94-95	:	11-911	124-25	134-35	152-53	116-17 124-25 134-35 152-53 162-63 180-81 198-99	180-81	198-99
$ \vec{a}_x, \hat{\Lambda}_x, \hat{\Gamma}_x $:	:	:	28-29	46-47	28-29 46-47 56-57 74-75 92-93	74-75	92-93	:	:	:	132-33	150-51	132-33 150-51 160-61 178-79 196-97	178-79	16-96
$\log \overline{a}_x, \log \overline{A}_x, \log \overline{P}_x$	_:	:	:	30-31	48-49	30-31 48-49 58-59 76-77 94-95	16-77	94-95	:	:	:	134-35	152-53	134-35 152-53 162-63 180-81 198-99	180-81	198-99
	1	1	•	32-40	•	89-09	78-86	78-86 96-104	:	÷	:	136-44	:	164-72	164-72 182-90 200-08	200-08
Ratios of Annuities due		i	ij	210	1	211	212	÷	:	:	:	210	:	211	212	:
II.—Joint Lives. O ^M Table, a _{xy} ; O ^{M©} Table, a _{xx}	- 3	;	i	214-22	1	224-32 234-42	234-42	:	:		:	254-55	:	262-63 270-71	17-072	1
" arra	:	:	:	:	:	:	:	:	:	:	:	256-57	:	264-65 272-73	272-73	:
), axxxx	:		:	:	*	:	:	:	:	1	:	258-59	:	266-67 274-75	274-75	:
O ^{MG} . Tables of Uniform Seniority (two, three and four lives).	:	ŧ	:	1	3	:	:	:	244–51	(app	licabl	e to a	III rat	(applicable to all rates of interest).	interes	t).



BRITISH OFFICES LIFE TABLES, 1893.

WHOLE-LIFE PARTICIPATING ASSURANCES MALE LIVES.

$\mathbf{0}^{\mathtt{M}}$

FULL AGGREGATE DATA.

GRADUATED MORTALITY TABLE,

Formula employed in graduating O^{M} Table:—

$$\Delta \operatorname{col}_{10} (p_x)^{\mathrm{OM}} = \Delta \operatorname{col}_{10} (p_x)^{\mathrm{OM}(5)} + \phi_x$$

$$\operatorname{col}_{10}(p_x)^{\operatorname{OM}} = \operatorname{col}_{10}(p_x)^{\operatorname{OM}(5)} - \Sigma_x^{\omega} \phi_x$$

where $\phi_x = \cdot 0000504e^{-\cdot 0032\log_6 10(29-x)^2} + \cdot 0000115e^{-\cdot 0060\log_6 10(66\cdot 5-x)^2}$

 O_{M}

ELEMENTARY VALUES

Ом

x	l_x	d_x	p_x	q_x	μ_x	e_x	x
10	100 000	338	996 62	.003 38	'003 37	51.459	10
11	99 662	340	996 59	'003 41	'003 40	50.634	11
12	99 322	343	996 55	'003 45	'003 44	49.806	12
13	98 979		996 50		'003 48		13
14	98 633	346 349	996 46	003 50	'003 52	48.980 48.12	14
15	98 284	354	'996 40	'003 60	'003 57	47'323	15
16	97 930	359	996 33	'003 67	'003 64	46'493	16
17	97 571	366	996 25	'003 75	.003 72	45.665	17
18	97 205	372	996 17	.003 83	'003 80	44.836	18
19	96 833	380	996 08	.003 93	.003 88	44 030	19
20	96 453	390	995 96	'004 04	'003 99	43'182	20
21	96 063	400	995 84	'004 16	'004 11		21
22	95 663	412	995 69	'004 31	'004 24	42°357 41°535	22
23	95 251	425	995 54	'004 46	'004 39	40.715	23
24	94 826	439	995 37	'004 63	'004 55	39.896	24
25	94 387	454	995 19	'004 81	'004 73	39.083	25
26	93 933	470	'995 00	'005 00	'004 91	38.271	26
27	93 463	489	994 77	'005 23	'005 13	37'464	27
28	92 974	506	994 56	'005 44	.002 32	36.661	28
29	92 468	526	'994 31	005 69	'005 58	35.861	29
30	91 942	547	'994 05	.005 95	'005 84	35'067	30
31	91 395	567	'993 80	.006 50	.006 00	34'277	31
32	90 828	589	993 52	'006 48	'006 36	33'490	32
33	90 239	611	993 23	.006 77	006 65	32.709	33
34	89 628	633	992 94	'007 06	'006 94	31,035	34
35	88 995	657	992 62	.007 38	'007 25	31,120	35
36	88 338	68 t	992 29	'007 71	'007 57	30.391	36
37	87 657	705	'991 96	'008 04	'007 91	29.626	37
38	86 952	729	991 62	.008 38	'008 24	28.867	38
39	86 223	756	'991 23	'008 77	'008 61	28.111	38
40	85 467	782	·990 85	'009 15	.000 00	27'360	40
41	84 685	810	'990 44	'009 56	'009 40	26.612	41
42	83 875	840	989 99	.010 01	'009 83	25.870	42
43	83 035	870	989 52	'010 48	'010 29	25'131	43
44	82 165	903	10 686.	.010 99	'010 79	24'397	44
45	81 262	937	988 47	'011 53	'011 32	23.668	45
46	80 325	974	987 87	'012 13	.011 89	22.945	46
47	79 351	1013	987 23	'012 77	'012 52	22'226	47
48	78 338	1 054	986 55	'013 45	'013 19	21.213	48
49	77 284	1 099	985 78	'014 22	'013 92	20.807	49
50	76 185	1 146	984 96	'015 04	'014 73	20'107	50
51	75 039	1 197	'984 05	'015 95	'015 61	19'414	51
52	73 842	1 250	983 07	016 93	.016 26	18.729	52
53	72 592	1 306	'982 01	'017 99	'017 60	18.021	53
54	71 286	1 367	980 82	'019 18	'018 74	17.382	54

OM -

ELEMENTARY VALUES

Om

\boldsymbol{x}	l_x	d_x	p_x	q_x	μ_x	e_x	\boldsymbol{x}
.55	69 919	1 430	'979 55	'020 45	'020 00	16.425	55
56	68 489	1 496	978 16	'021 84	'021 35	16 .021	56
57	66 993	1 566	976 62	.023 38	.022 84	15.430	57
58	65 427	1 639	974 95	.022 02	·024 48	14.799	58
59	63 788	1715	'973 11	·026 89	.026 29	14.179	59
60	62 073	1 792	'97113	.028 87	.028 24	13.21	60
61	60 281	1 872	968 95	'031 0 5	.030 39	12.974	61
62	58 409	1 953	·966 56	'033 44	'032 74	12.390	62
63	56 456	2 034	.963 97	·036 03	·035 31	11.819	63
64	54 422	2 1 1 5	.961 14	°038 86	.038 12	11.591	64
65	52 307	2 195	958 04	·041 96	'041 21	10.416	65
66	50 112	2 27 1	954 68	045 32	·044 57	10.182	66
67	47 841	2 344	951 00	.049 00	048 25	9.669	67
68	45 497	2 411	947.01	052 99	.052 28	9.167	68
69	43 086	2 47 I	942 65	.057 35	·056 69	8.680	69
70	40 615	2 521	_	.062 07	·061 50	8.308	
70	38 094	2 521	937 93	067 23			70
72		2 587	932 77		.066 76 .072 50	7.751	71
78	35 533	2 507	927 19	°07281 °07892	072 50	7.310	72
74	32 946 30 346		921 08			6.884	78
	30 346	2 594	914 52	.085 48	·085 68	6.474	74
75	27 752	2 571	·907 36	·092 64	.093 18	6.079	75
76	25 181	2 529	·89 9 57	100 43	101 40	5.400	76
77	22 652	2 465	.891 18	108 82	.11038	5.336	77
78	20 187	2 381	.882 05	117 95	120 21	4.988	78
79	17 806	2 276	.872 18	127 82	.130 92	4.654	79
80	15 530	2 150	·861 56	·138 44	142 71	4'337	80
81	13 380	2 007	·8 5 0 00	150 00	155 56	4.033	81
82	11 373	1 847	·837 60	162 40	169 63	3.745	82
83	9 526	1 674	824 27	'175 73	185 01	3'471	83
84	7 852	I 493	·8o9 86	190 14	·201 85	3.511	84
85	6 359	1 308	'794 3 ¹	.205 69	.220 26	2.965	85
86	5 0 5 1	I I 2 2	.777 87	222 13	'240 40	2.733	86
87	3 929	943	·759 9 9	'240 01	262 44	2.214	87
88	2 986	773	741 13	258 87	·286 54	2.308	88
89	2 213	617	721 19	27881	31291	2'114	89
90	1 596	480	·699 25	300 75	'341 76	1,031	90
91	1 116	360	677 42	322 58	373 32	1.762	91
92	756	263	652 12	347 88	407 84	1.601	92
93	493	183	628 80	371 20	445 60	1.454	93
94	310	124	.600 00	400 00	486 92	1.313	94
95	186	79	·575 27	424 73	.232 11	1.188	95
96	107	49	542 06	457 94	.281 26	1.062	96
97	5 8	28	517 24	482 76	635 64	.966	97
98	30	15	500 00	.200 00	694 81	·86 ₇	98
99	15	8	.466 67	533 33	759 54	733	99
100	7	4	428 57	571 43	.830 35	.221	100
101	3	2	333 33	.666 67	907 82	333	101
102	1	I	.000 00	1.000 00	992 56	.000	102
	<u> </u>			1	1 332 32	1	

OM

ELEMENTARY VALUES

OM

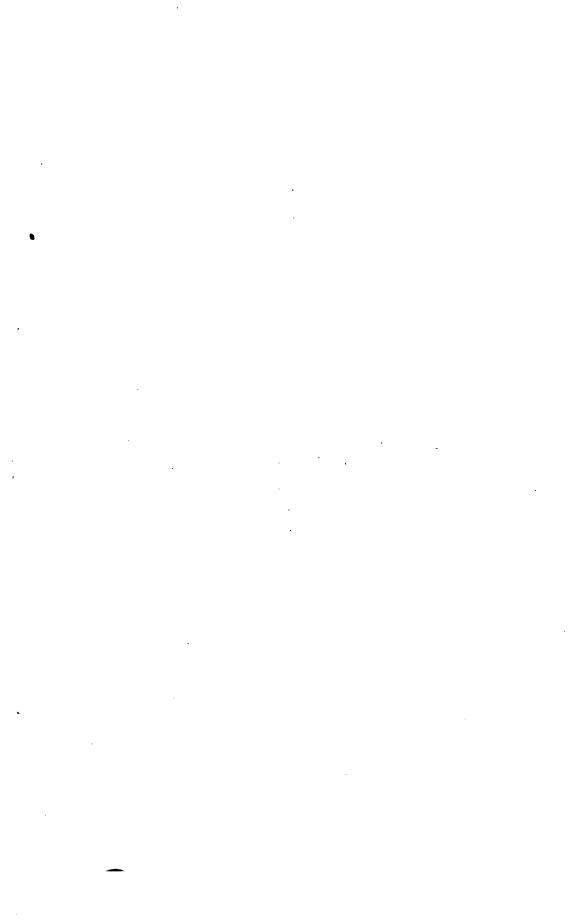
\boldsymbol{x}	$\log l_x$	$\log d_x$	$\log p_{x'}$	$\log \mu_x$	$\operatorname{col}l_{m{x}}$	$\operatorname{col} p_x$	\boldsymbol{x}
10	5*000 00	2*528 92	ī·998 53	3.527 52	5.000 00	'001 47	10
11	4*998 53	*531 48	·998 52	531 56	.001 47	'001 48	11
12	*997 05	*535 29	·998 49	536 24	.002 95	'001 51	12
13	*995 54	*539 08	·998 48	541 65	.004 46	'001 52	13
14	*994 02	*542 83	·998 46	546 73	.005 98	'001 54	14
15	'992 48	'549 00	'998 44	553 24	'007 52	'001 56 '001 60 '001 63 '001 67 '001 70	15
16	'990 92	'555 09	'998 40	560 94	'009 08		16
17	'989 32	'563 48	'998 37	569 96	'010 68		17
18	'987 69	'570 54	'998 33	579 24	'012 31		18
19	'986 02	'579 78	'998 30	588 77	'013 98		19
20	984 32	591 06	.998 24	600 96	'015 68 '017 44 '019 26 '021 13 '023 07	'001 76	20
21	982 56	602 06	.998 18	613 86		'001 82	21
22	980 74	614 90	.998 13	627 52		'001 87	22
23	978 87	628 39	.998 06	642 65		'001 94	23
24	976 93	642 46	.997 98	658 39		'002 02	24
25	974 91	657 06	'997 91	.674 75	'025.09	'002 09	25
26	972 82	672 10	'997 82	.691 51	'027.18	'002 18	26
27	970 64	689 31	'997 72	.710 07	'029.36	'002 28	27
28	968 36	704 15	'997 63	.728 36	'031.64	'002 37	28
29	965 99	720 99	'997 52	.746 38	'034.01	'002 48	29
30	963 51	737 99	'997 41	766 05	'036 49	'002 59	30
31	960 92	753 58	'997 30	784 87	'039 08	'002 70	31
32	958 22	770 12	'997 17	803 58	'041 78	'002 83	32
33	955 39	786 04	'997 05	822 75	'044 61	'002 95	33
34	952 44	801 40	'996 93	841 24	'047 56	'003 07	34
35	'949 37	817 57	'996 78	.860 b8	050 63	003 22	35
36	'946 15	833 15	'996 64	.879 28	053 85	003 36	36
37	'942 79	848 19	'996 49	.897 94	057 21	003 51	37
38	'939 28	862 73	'996 34	.916 09	060 72	003 66	38
39	'935 62	878 52	'996 18	.934 98	064 38	003 82	39
40	'931 80	'893 21	'996 o1	'954 08	068 20	003 99	40
41	'927 81	'908 49	'995 82	'972 92	072 19	004 18	41
42	'923 63	'924 28	'995 63	'992 74	076 37	004 37	42
43	'919 26	'939 52	'995 43	2'012 58	080 74	004 57	43
44	'914 69	'955 69	'995 20	'032 83	085 31	004 80	44
45 46 47 48 49	'909 89 '904 85 '899 55 '893 97 '888 09	'971 74 '988 56 3'005 61 '022 84 '041 00	'994 96 '994 70 '994 42 '994 12 '993 78	°053 74 °075 19 °097 47 °120 12 °143 72	.090 11 .095 15 .100 45 .106 03	005 04 005 30 005 58 005 88 006 22	45 46 47 48 49
50	·881 87	°059 18	'993 42	168 12	118 13	006 58	50
51	·875 29	°078 09	'993 01	193 27	124 71	006 99	51
52	·868 30	°096 91	'992 59	219 16	131 70	007 41	52
53	·860 89	°115 94	'992 11	245 42	139 11	007 89	53
54	·853 00	°135 77	'991 60	272 78	147 00	008 40	54

OM

ELEMENTARY VALUES

OM

	, ,				- 7		
$oldsymbol{x}$	$\log l_x$	$\log d_x$	$\log p_x$	$\log \mu_x$	$\operatorname{col} l_x$	$\operatorname{col} p_x$	x
55	4.844 60	3'155 34	<u>1</u> .991 02	2'300 93	5.122 40	.008 98	55
56	835 62	174 93	1990 41	329 45	164 38	.009 29	56
57	·826 o3	194 79	989 73	358 78	173 97	010 27	57
58	·815 76	214 58	988 98	'388 90	184 24	01102	58
59	·804 74	1234 26	988 16	41971	195 26	·01184	59
60	.792 90	°253 34	987 28	.450 91	'207 10	01272	60
61	·78o 18	'272 31	.986 30	482 67	21982	.01370	61
62	.766 48	'290 70	985 23	515 10	*233 52	'014 77	62
63	751 71	.308 32	984 06	'547 91	*248 29	·015 94	63
64	735 77	325 31	982 79	.281 16	.264 23	'017 21	64
65	·718 56	'341 43	·981 38	.614 97	·281 44	.018 63	65
66	699 94	356 22	979 86	649 06	300 06	'020 14	66
67	679 80	·369 96	978 18	·683 48	'320 20	.021 82	67
68	.657 98	'382 20	976 36	718 34	'342 02	'023 64	68
69	[.] 634 34	.392 87	'974 35	753 48	.365 66	.025 65	69
70	.608 69	'401 57	972 17	.788 85	'391 31	.027 83	70
71	·58o 86	'408 41	969 77	'824 49	'419 14	'030 23	71
72	·550 6 3	'41280	'967 17	·86o 35	'449 37	.032 83	72
73	517 80	414 97	·964 30	·896 53	'482 20	.035 40	78
74	'482 10	'413 97	.961 19	.932 87	.517 90	.038 81	74
75	443 29	41010	957 78	1969 32	.556 71	'042 22	75
76	'401 07	'402 95	'954 04	1.000 04	598 93	'045 96	76
77	355 11	·391 82	949 96	·042 89	644 89	'050 04	77
78	'305 07	376 76	945 50	·079 94	694 93	. 054 50	78
79	·250 57	357 17	·94 o 60	11711	'749 43	·059 40	79
80	191 17	'332 44	935 29	154 45	.808 83	·064 71	80
81	126 46	302 55	929 42	.191 90	·873 54	.070 58	81
82	·o55 88	266 47	923 03	229 50	'944 12	·076 97	82
83	3.978 91	'223 76	.916 04	'267 20	4 021 09	·083 93	83
84	·89 4 98	174 06	·908 41	.302 03	105 02	.001 20	84
85	.803 39	.119 91	.899 99	·342 94	19661	.100 01	85
86	.703 38	.049 99	·89o 9o	·38o 93	.296 62	.100 10	86
87	·594 28	2.074 21	·880 81	'419 03	'405 72	.119 19	87
88	'475 09	·888 18	.869 89	457 19	'524 91	.130 11	88
89	·344 98	790 29	·858 o5	°495 42	.655 02	141 95	89
90	'203 03	·681 24	.844 63	533 72	796 97	155 37	80
91	.047 66	.226 30	830 86	572 08	_ 952 34	169 14	91
92	2.878 52	.419 96	'814'33	610 49	3.121 48	185 67	92
98	692 85	.262 45	798 51	648 95	'307 15	201 49	93
94	'491 36	'093 42	.778 15	687 46	·508 64	.221 82	94
95	.569 21	1.897 63	.759 ⁸ 7	726 00	·730 49	'240 13	95
96	.029 38	690 20	734 05	764 59	-970 62	265 95	96
97	1.763 43	447 16	71369	803 21	2.236 57	'286 31	97
98	'477 12	176 09	1668 97	·841 87	'522 88	301 03	98
99	176 09	0.003 00	669 01	·88o 55	.823 91	.330 99	99
100	0.845 10	·602 o6	632 02	919 26	1.124 00	367 98	100
101	'477 12	301 03	.22 88	958 00	522 88	477 12	101
102	.000 00	.000 00	•••	·996 76	0,000 00	•••	102



$\mathbf{0}^{\mathtt{m}}$

2 PER CENT.

CONSTANTS

Constant.	Number.	Logarithm.
<i>i</i>	°02	2.301 030 0
$(1+i)$ $(1+i)^{\frac{1}{2}}$	1'02	0.008 600 3 0.004 300 1
$(1+i)^{\frac{1}{2}}$	1'009 950 5	0'002 150 0
ข	980 392 2	ī·991 399 8
$v^{\frac{1}{2}}$	·990 147 5	ī·995 699 9
vł	.992 061 6	ī·997 850 o
d	·019 607 8	2.292 429 8
δ	·019 802 6 ·	2 ·296 722 8

 O_{M}

COMMUTATION TABLE

2 PER OENT.

\boldsymbol{x}	\mathbf{D}_{x}	N_x	\mathbf{S}_{x}	\mathbf{C}_{x}	\mathbf{M}_{x}	R_x	\boldsymbol{x}
10	82 035	2 587 612	60 837 361	271.84	31 297 32	1 394 724'48	10
11	80 154	2 505 577	58 249 749	268.09	31 025 48	1 363 427'16	11
12	78 315	2 425 423	55 744 172	265.15	30 757 39	1 332 401'68	12
13	76 514	2 347 108	53 318 749	262.22	30 492 24	1 301 644'29	18
14	74 751	2 270 594	50 971 641	259.31	30 230 02	1 271 152'05	14
15	73 026	2 195 843	48 701 047	257.87	29 970'71	1 240 922 03	15
16	71 337	2 122 817	46 505 204	256.38	29 712'84	1 210 951 32	16
17	69 682	2 051 480	44 382 387	256.26	29 456'46	1 181 238 48	17
18	68 059	1 981 798	42 330 907	255.35	29 200'20	1 151 782 02	18
19	66 469	1 913 739	40 349 109	255.73	28 944'85	1 122 581 82	19
20	64 910	1 847 270	38 435 370	257.31	28 689.12	1 093 636'97	20
21	63 380	1 782 360	36 588 100	258.74	28 431.81	1 064 947'85	21
22	61 879	1 718 980	34 805 740	261.27	28 173.07	1 036 516'04	22
23	60 404	1 657 101	33 086 760	264.23	27 911.80	1 008 342'97	28
24	58 955	1 596 697	31 429 659	267.58	27 647.57	980 431'17	24
25	57 532	1 537 742	29 832 962	271'30	27 379 99	952 783.60	25
26	56 132	1 480 210	28 295 220	275'36	27 108 69	925 403.61	26
27	54 756	1 424 078	26 815 010	280'87	26 833 33	898 294.92	27
28	53 402	1 369 322	25 390 932	284'93	26 552 46	871 461.59	28
29	52 070	1 315 920	24 021 610	290'39	26 267 53	844 909.13	29
30	50 758	1 263 850	22 705 690	296.06	25 977'14	818 641 60	30
31	49 467	1 213 092	21 441 840	300.87	25 681'08	792 664 46	31
82	48 196	1 163 625	20 228 748	306.41	25 380'21	766 983 38	32
33	46 945	1 115 429	19 065 123	311.63	25 073'80	741 603 17	33
34	45 713	1 068 484	17 949 694	316.52	24 762'17	716 529 37	34
35	44 500	978 271	16 881 210	322.08	24 445.65	691 767:20	35
36	43 305	978 271	15 858 439	327.30	24 123.57	667 321:55	36
37	42 129	934 966	14 880 168	332.19	23 796.27	643 197:98	37
38	40 971	892 837	13 945 202	336.76	23 464.08	619 401:71	38
39	39 831	851 866	13 052 365	342.39	23 127.32	595 937:63	39
40	38 707	812 035	12 200 499	347.22	22 784'93	572 810·31	40
41	37 601	773 328	11 388 464	352.60	22 437'71	550 025·38	41
42	36 511	735 727	10 615 136	358.49	22 085'11	527 587·67	42
43	35 437	699 216	9 879 409	364.01	21 726'62	505 502·56	43
44	34 378	663 779	9 180 193	370.41	21 362'61	483 775·94	44
45	33 333	629 401	8 516 414	376·82	20 992'20	462 413'33	45
46	32 303	596 068	7 887 013	384·02	20 615'38	441 421'13	46
47	31 286	563 765	7 290 945	391·56	20 231'36	420 805'75	47
48	30 281	532 479	6 727 180	399·42	19 839'80	400 574'39	48
49	29 287	502 198	6 194 701	408·31	19 440'38	380 734'59	49
50	28 305	472 911	5 692 503	417.42	19 032 07	361 294.21	50
51	27 332	444 606	5 219 592	427.45	18 614 65	342 262.14	51
52	26 369	417 274	4 774 986	437.62	18 187 20	323 647.49	52
53	25 414	390 905	4 357 712	448.26	17 749 58	305 460.29	53
54	24 468	365 491	3 966 807	460.00	17 301 32	287 710.71	54

OM

COMMUTATION TABLE

2 PER CENT.

							,
\boldsymbol{x}	$\mathrm{D}_{\pmb{x}}$	N_x	S_x	$\mathbf{C}_{m{x}}$	$\mathbf{M}_{m{x}}$	\mathbf{R}_{x}	\boldsymbol{x}
55	23 528.	341 023'	3 601 316.	471'77	16 841.32	270 409'39	55
56		_	3 260 293,		16 369 55	253 568.07	
	22 595	317 495		483.86			56
57	21 668.	294 900'	2 942 798	496.27	15 885 69	237 198.52	57
58	20 747	273 232.		509.23		221 312.83	58
59	19830.	252 485.	2 374 666.	522.40	14 879.59	205 923.71	59
60	18 919.	232 655	2 122 181.	535.46	14 356.89	191 044 12	60
61	18 012.	213 736.	1 889 526.		13 821.43	176 687 23	61
62	17 111.					162 865.80	62
63	1 °.	195 724			13 273.03		
	16 214.	178 613.		572.72	12712'12	149 592'77	68
64	15 324.	162 399.	1 301 453.	583.85	12 139.40	136 880.65	64
65	14 439'	147 075	1 139 054	594.05	11 555.22	124 741'25	65
66	13 562	132 636.		602.57	10 961 50	113 185'70	66
67	12 694	119 074		609.74	10 358.93	102 224'20	67
68	11 835.	106 380.		614.87	9 749'19	91 865.27	68
69	10 088.	_	633 889	617.82		82 116.08	69
	-	94 545	1	1 -	9 134'32		
70	10 122.	83 557	539 344	617.96	8 5 16.20	72 981 76	70
71	9 337.8	73 402.2	455 786.8	615.46	7 898.54	64 465 26	71
72	8 539.2	64 064 4	382 384.6	609.21	7 283.08	56 566.72	72
73	7 762.3	55 525.5	318 320'2	600.22	6 673'57	49 283.64	73
74	7 009.5	47 762.9	262 795.0	587.43	6 073.00	42 610.07	74
	1		1				
75	6 284.7	40 753'4	215 032'1	570.81	5 485.57	36 537.07	75
76	5 590.6	34 468.7	174 278.7	550.47	4 914.76	31 051.20	76
77	4 930.2	28 878 1	139 810.0	526.02	4 364.29	26 136.74	77
78	4 307.8	23 947.6	110 931.9	498'13	3 838·27	21 772.45	78
79	3 7 2 5 2	19 639.8	86 984.3	466.83	3 340'14	17 934'18	79
80	3 185.4	15 914.6	67 344.5	432'34	2 873.31	14 594.04	80
81	2 690.6	12 729.5	51 429'9	395.67	2 440 97	11 720.73	81
82	2 242'I	10 038.6	38 700.7	356.99	2 045'30	9 279 76	82
83	1 841.3	٠.	38 665.1				88
	1	7 796.5		317.21	1 688.31	7 234.46	
84	1 487.9	5 955'3	20 865.6	277.36	1 371.10	5 546.12	84
85	1 181.3	4 467'4	14 910'3	238.23	1 093'74	4 175.05	85
86	919'95	3 286.08	10 442.87	200'34	855.21	3 081.31	86
87	701.26	2 366.13	7 156 79	165.08	655.17	2 225.80	87
88	522.73	1 664.57	4 790.66	132.67	490.09	1 570.63	88
89	379.81	1 141 84	3 126.09	103.82	357.42	1 080.24	89
l						_	90
90	268.22	762.03	1 984.25	79.182	253.604	723.116	
91	184.10	493.48	I 222'22	58.222	174.422	469.512	91
92	122.27	309:38	728.74	41'700	116.500	295.090	92
93	78.168	187.111	419.355	28.447	74.200	178.890	93
94	48.189	108'943	232.244	18.898	46.053	104'390	94
95	28.346	60'754	123.301	11.803	27.155	58.337	95
96	15.987	32.408	62.247	7.1776	15.351 6		96
97	8.495 9		30.139 2		8.174 0		
98	4.308 3						
99	5,111 0		5.793 1				
ı	966 2			4	ŀ	1	
100 101					936 7		
102	'406 o						100
102	132 7	132 7	132 7	.130 1	.130 1	130 1	102
			M - D + D				

$$N_x = D_x + D_{x+1} + \dots$$

 $S_x = N_x + N_{x+1} + \dots$

 $\mathbf{O}_{\mathbf{M}}$

LOGARITHMS AND CO-LOGARITHMS OF D_x , N_x , C_x , M_x $2_{cent.}^{per}$

x	$\log \mathrm{D}_x$	$\log N_x$	$\log \mathrm{C}_x$	$\log \mathrm{M}_x$	$\operatorname{col}\mathbf{D}_{x}$	$\operatorname{col} \mathbf{N}_x$	$\operatorname{col} \mathbf{C}_x$	$\operatorname{col} \mathbf{M}_x$	\boldsymbol{x}
10		6'412 90			5.086 oo .096 o	7·587 10 ·601 09		5.504 49 508 28	10 11
11 12	·903 93 ·893 84	'398 91 '384 79	'428 28 '423 49	'491 72 '487 95	106 16	615 21	'571 72 '576 51	512 05	12
18	883 74	370 53	423 49	'484 19	116 26	629 47	.281 33	515 81	18
14	873 62	376 33	413 82	480 44	126 38	643 86	'586 18	.219 26	14
1 1	.863 48	341 60	ĺ	476 70	136 52	658 40	·588 6o	523 30	15
15 16		341 00	'411 40 '408 89	470 70	130 52	673 09	500 00	523 30	16
17	·853 31 ·843 12	320 91	408 68	4/2 94	156 88	687 93	591 32	530 82	17
18	832 89	297 06	'407 14	465 39	167 11	702 94	592 86	534 61	18
19	822 62	281 88	407 78	'461 57	177 38	71812	592 22	538 43	19
		!		_	· .	1	1	542 28	
20 21	·812 31 ·801 95	266 53	'410 46 '412 86	457 72	'187 69 '198 05	733 47	·589 54 ·587 14	542 20	20 21
22	791 54	251 00	417 09	'453 81 '449 83	208 46	749 00	582 91	550 17	22
23	791 54	'235 27 '219 35	41709	445 79	218 93	780 65	578 02	554 21	23
24	770 52	203 22	427 46	'441 66	229 48	796 78	572 54	558 34	24
		-			1	1	1	1	
25	759 91	.186 88	433 45	437 43	240 09	813 12	.266 55	·562 57 ·566 89	25
26	749 21	170 32	'439 89	'433 11	·250 79	·829 68 ·846 47	.260 11		26 27
27 28	738 44	136 51	448 50	428 67	·261 56 ·272 44	863 49	'551 50 '545 25	'571 33 '575 90	28
29	727 56	130 31	'454 75 '462 98	'424 10 '419 42	283 41	·880 77	537 02	·580 58	29
								1	
30	'705 51	101 70	'471 38	414 59	294 49	.898 30	.528 62	.585 41	30
31	694 32	.083 89	478 38	409 61	.305 68	.916 11	521 62	.590 39	31
32	683 01	.065 81	'486 31	404 50	316 99	934 19	.21369	.595 50 .600 78	32 33
33 84	.671 59 .660 04	°047 44 °028 76	'493 64	399 22	328 41	952 56	'506 36 '499 60	.600 78	34
0-		· ·	.200 40	'393 79	.339 96	• •		1	
35	648 36	'009 78	.207 96	·388 20	351 64	- 990 22	'492 04	.61180	35
36	636 54	5.990 46	514 94	382 44		6.009 24	'485 06	617 56	36
37	624 58	.970 80	521 38	376 51	375 42	'029 20	478 62	623 49	37
88	612 47	950 77	527 32	370 40	·387 53	049 23	472 68	629 60 635 87	38 39
39	600 22	'930 37	'534 51	.364 13	.399 78	.069 63	'465 49		
40	.587 79	'909 57	.240 60	'357 65	'412 21	'090 43	'459 40	642 35	40
41	575 20	888 36	547 28	350 98	424 80	111 64	452 72	649 02	41
42	.262 43	866 72	554 47	'344 10	437 57	133 28	445 53	655 90	42
43	'549 45 '536 a8	·844 61	.268 68	336 99	'450 55	155 39	'438 89	663 01	43 44
44	.536 28	.822 02	.268 68	.329 65	'463 72	177 98	'431 32	1	
45	·522 88	798 93	.576 13	·322 o6	477 12	'201 07	'423 87	677 94	45
46	·509 24	·775 3°	'584 35	314 19	'490 76	'224 70	415 65	685 81	46
47	495 34	'751 10	592 80	306 03	504 66	248 90	'407 20	693 97	47
48	'481 16	726 30	601 43	297 54	518 84	273 70	398 57	702 46	48 49
49	·466 68	·700 88	.610 99	·288 70	·533 32	'299 12	.389 01	711 30	20
50	451 86	674 78	·620 58	279 49	·548 14	.325 22	379 42	720 51	50
51	·436 68	.647 98	·630 89	*269 85	.263 32	352 02	.369 11	730 15	51
52	421 09	·620 42	'641 10	259 77	.578 91	379 58	358 90	740 23	52
58	405 08	'592 07	651 53	249 19	594 92	'407 93	348 47	750 81	53
54	.388 29	·562 88	·6 62 76	·238 o8	61141	'437 12	'337 24	.761 92	54
			NT .	- D + T	<u> </u>	<u> </u>]	<u> </u>	

 $\mathbf{N}_x = \mathbf{D}_x + \mathbf{D}_{x+1} + \dots$ $S_x = N_x + N_{x+1} + \dots$

logarithms and co-logarithms of D_x , N_x , C_x , M_x 2 per cent.

			,	·		,	,		
x	$\log \mathbf{D}_{x}$	$\log N_x$	$\log C_x$	$\log M_x$	$\operatorname{col} \operatorname{D}_{x}$	$\operatorname{col} \mathbf{N}_x$	$\operatorname{col} \mathbf{C}_x$	$\operatorname{col} \mathbf{M}_{x}$	x
55	4'37 1 59	5.23 78	2.673 73	4.526 38	5.628 41	6.467 22	3.326 27	5.773 62	55
56	354 01	501 74	684 72	214 04	.645 99	498 26	315 28	·785 96	56
					664 18			798 99	
57	335 82	469 67	695 98	'201 01		530 33	304 02		57
58	316 95	'436 53	'707 17	187 21	683 05	563 47	292 83	.812 79	58
59	297 33	402 24	718 25	172 59	.702 67	597 76	.281 75	.827 41	59
60	276 89	'366 71	.728 73	157 06	.723 11	633 29	271 27	.842 94	60
81	255 57	329 88	739 10	140 55	744 43	670 12	260 90	859 45	61
		291 65	748 89	122 97	766 73	708 35	251 11	877 03	62
62	233 27								
63	209 90	251 91	757 94	104 22	790 10	'748 09	'242 06	.895 78	63
64	185 36	.510 20	766 30	·084 20	·814 64	'789 41	'233 70	915 80	64
65	159 55	167 54	.773 82	.062 79	·840 45	.832 46	.226 18	'937 21	65
66	132 33	122 66	'780 OI	.039 87	867 67	877 34	21999	960 13	66
'67	103 59	075 82	.785 15	01531	896 41	924 18	214 85	984 69	67
68	073 17	026 86	788 79	3.988 97	926 83	973 14	211 21	4.011 03	68
			700 79	.960 68					69
69	.040 92	4.975 64		-		5.024 36	'209 14	.039 32	
70	.006 64	921 98	790 96	. 930 26	.993 33	°078 02	209 04	·069 74	70
71	3.970 24	.865 71	.789 20	^{.8} 97 55	4.029 46	134 29	°21080	102 45	71
72	931 42	·8o6 62	·784 98	.862 32	·068 58	193 38	*215 02	137 68	72
73	889 99	744 49	.778 56	824 36	.110 01	'255 51	221 44	175 64	73
74	·845 69	679 09	768 96	783 40	154 31	320 91	231 04	216 60	74
l						1			
75	798 28	.61016	'756 49	739 22	201 72	'389 84	243 51	'260 78	75
76	747 46	537 43	'740 74	.691 20	`252 54	'462 57	*259 26	.308 20	76
77	.692 89	'460 57	721 00	.639 91	'307 11	539 43	279 00	·360 og	77
78	634 26	'379 26	697 35	·584 14	'365 74	620 74	302 65	:415 86	78
79	571 15	'293 14	669 16	523 76	428 85	.706 86	330 84	476 24	79
	503 16	.201 80	.635 82	458 38	'496 84	798 20	'364 18	·541 62	80
80							402 67	612 44	81
81	'429 84	104 80	597 33	387 56	.570 16	·895 20			
82	350 66	.001 64	552 65	31076	.649 34	-998 33	447 35	689 24	82
83	265 10	3.891 90	501 34	·227 45	734 90	4 ·108 10	·498 66	772 55	83
84	172 57	'774 90	°443 °5	137 07	·827 43	'225 10	.226 92	·862 93	84
85	·072 37	·650 05	376 99	·038 91	927 63	349 95	623 01	961 09	85
86	2.963 76	.216 68	301 78	2.932 23	3.036 24	483 32	698 22	3.067 77	86
87	846 07	374 04	21770	816 35	153 93	625 96	.782 30	183 65	87
88	718 27	221 30	122 76	690 28	281 73	77870	877 24	309 72	88
	1		_ • (89
89	579 57	.057 61	016 27	.253 18	'420 43	942 39	[.] 983 73	446 82	
90	429 02	2.881 97	1.898 63	404 16	·570 98	3.118 03	2.101 34	.595 84	90
91	·265 o5	693 27	.765 09	·241 60	734 95	.306 73	'234 91	758 40	91
92	'087 31	'490 49	620 14	065 21	91269	.209 21	:379 86	934 79	92
93	1.893 03	272 10	454 03	1.872 16	2·106 97	727 90	545 97	2.127 84	93
94	682 95	037 20	276 41	663 26	317 05	962 80	723 59	336 74	94
1	1	1		_					OE
95	452 50	1.483 24	'072 01	433 85		2.516 43	927 99	.266 12	95
96	'203 77	.210 62	0.852 98	186 15	796 23	'489 35	Ī'144 02	-813 85	96
97	0.020 21	'215 40		0'912 43	1.070 79	784 60		ī·087 57	97
98	·634 3 0	o.899 o o	'324 67	.618 35		1.101 00	675 33	.381 62	98
99	324 67	.558 32	'043 07	·309 84	675 33	'441 68	· 9 56 93	·69 o 16	99
100	ī 985 08	177 51	ī'733 44	ī·971 60	0'014 92	.822 49			100
101	608 50					0.568 62	.200 30		101
		1.431 32	42381	597 04					102
102	122 78	122 78	114 18	114 18	.877 22	.877 22	.885 82	005 02	102
			TAT						

VALUES OF a_x , A_x , P_x . LOGARITHMS OF a_x , A_x , P_x 2 PER CENT.

x	a_x	\mathbf{A}_{x}	\mathbf{P}_{x}	$\log a_x$	$\log A_x$	$\log P_x$	x
10	30°543 30°259	·38 151	°01 210	1'498 90 '494 98	1.581 51 .587 79	2.082 61 .092 81	10 11
12	29.970		'01 26 8			103 16	12
13	29.676	39 274	'01 299	'490 95 '48 6 79	'594 11	113 66	13
14		'39 852		482 52	600 45		14
	29.375	'40 441	.01 331		000 02	124 30	
15	29.069	'41 041	.01 362	.478 12	613 22	135 10	15
16	28.758	41 651	01 400	'473 60	.619 63	146 03	16
17	28.441	42 273	°01 436	468 95	·626 o6	157 11	17
18	28.118	'42 904	° 01 473	'464 17	632 50	'168 33	18
19	27.791	°43 546	.01 215	·459 26	638 95	179 69	19
20	27.459	'44 199	·01 553	454 22	645 41	.191 19	20 .
21	27.122	44 860	·o1 595	449 05	651 86	202 81	21
22	26.780	45 529	.01 639	443 73	658 29	'214 56	22
23	26.433	46 208	·o1 684	438 28	664 72	226 44	23
24	26.083	46 896	'01 732	432 70	671 14	238 44	24
		1	į			1	
25	25.728	47 590	·01 781	'426 97	677 52	°250 55	25
26	25.370	48 295	.01 831	'421 11	.683 90	'262 79	26
27	25.007	'49 004	°01 884	'415 09	690 23	'275 14	27
28	24.642	49 721	.01 939	'408 95	696 54	.287 59	28
29	24.525	.20 446	.01 996	'402 64	'702 83	.300 10	29
80	23.899	·51 178	02 055	.396 19	709 08	312 89	30
31	23.23	51 915	'02 117	389 57	715 29	325 72	31
32	23'144	.2 661	02 181	382 80	721 49	338 69	32
83	22.760	'53 411	02 248	375 85	727 63	351 78	33
34	22.374	.54 169	.02 318	.368 72	733 75	365 03	84
85	21.984	54 934	·02 390	'361 42	.739 84	'378 42	35
86	21.590	55 706	·02 466	353 92	745 90	391 98	36
87	21.103	.56 485	02 545	346 22	751 93	405 71	37
88	20.792	57 270	02 628	338 30	757 93	419 63	38
39	20.387	58 064	.02 715	330 15	763 91	433 76	39
40	19'979	·58 86 5	·o2 806		769 86	·448 o8	40
41	19 9 7 9	59 673	'02 901	'321 78 '313 16	775 78	462 62	40 41
42	19.120	60 488	02 901		775 70	477 38	42
43	18.731	61 311	03 002	304 29 295 16	787 54	477 30	43
44	18.308	62 140	03 107	295 10		507 63	44
		1	i -		793 37	1	
45	17.882	62 977	·o3 335	276 05	'799 18	'523 13	4.5
46	17.453	63 819	°03 459	·266 o6	'804 95	.538 89	46
47	17.020	64 668	.03 289	.255 76	.810 69	554 93	47
48	16.282	65 521	'03 726	'245 14	816 38	571 24	48
49	16.142	.66 377	.03 871	234 20	'822 02	.587 82	49
50	15.708	67 240	'04 024	.222 92	.827 63	604 71	50
51	15.267	68 104	'04 187	'211 30	833 17	621 87	51
52	14.825	68 973	04 359	199 33	·838 68	639 35	52
53	14.381	69 841	'04 541	.186 99	'844 11	657 12	53
54	13.938	70 711	'04 734	174 29	.849 49	675 20	54
						1	

OM values of a_x , A_x , P_x . logarithms of a_x , A_x , P_x 2 per cent.

x	a_x	\mathbf{A}_{x}	\mathbf{P}_{x}	$\log a_x$	$\log \mathbf{A}_x$	$\log P_x$	\boldsymbol{x}
55	13.494	·71 580	°04 939	1,191 10	ī·854 79	<u>2</u> .693 60	55
56	13.021	72 449	·05 156	147 73	·860 o3	712 30	56
57	12.010	73 315	.05 387	133 85	·865 19	731 34	57
58	12.170	74 175	05 632	119 58	·870 26	750 68	58
59	11.732	.75 034	.05 893	104 91	·875 26	770 35	59
60	11.508	.75 887	.06 171	·089 82	·88o 17	790 35	60
61	10.866	76 733	.06 467	'074 31	.884 98	810 67	61
62	10'439	77 571	.06 781	058 38	889 70	.831 32	62
63	10.016	78 401	'07 117	'042 01	894 32	.852 31	63
64	9.298	.79 221	·07 475	025 23	1898 84	·873 61	64
65	9.186	·8o o2 8	.07 857	.007 99	903 24	895 25	65
66	8 ∙780	·80 824	08 264	0.000 33	907 54	917 21	66
67	8.381	·81 606	·08 699	972 23	911 72	'939 49	67
68	7.989	·82 376	'09 164	953 69	915 80	962 11	68
69	7.604	.83 130	.09 661	934 72	919 76	985 04	69
70	7.228	:83 867	10 192	915 31	923 59	ī.008 28	70
71	6.861	84 588	10 761	895 47	927 31	'031 84	71
72	6.203	85 290	11 368	875 20	930 90	'055 70	72
78	6.123	85 975	12 019	854 50	934 37	079 87	73
74	5.814	·86 638	12 715	833 40	937 71	104 31	74
75	5.485	·87 2 85	13 460	81188	940 94	129 06	75
76	5.162	87 910	13 400	·789 97	940 94	129 00	76
77	4.857	·88 516	15 113	767 68	'947 02	179 34	77
78	4.224	.89 100	16 028	745 00	949 88	204 88	78
79	4.5275	·89 662	17 007	721 99	952 61	230 62	79
80	3.996	90 203	18 054	698 64	955 22	256 58	80
81	3'73I	90 724	19 176	·674 96	955 72	250 50	81
82	3.477	91 222	20 375	651 01	.960 10	309 09	82
83	3.234	·91 696	21 655	·626 8o	962 35	335 55	83
84	3.003	'92 151	·23 023	602 33	964 50	362 17	84
85	2.782	92 585	.24 483	·577 68	966 54	388 86	85
86	2.245	92 997	26 035	.552 92	968 47	415 55	86
87	2.373	93 386	27 689	'5 27 97	970 28	442 31	87
88	2.184	93 758	'29 443	503 03	'972 01	468 98	88
89	2.000	'94 104	31 302	478 04	973 61	495 57	89
90	1.838	'94 437	.33 281	452 95	975 14	522 19	90
91	1.681	94 744	35 345	432 93	975 14	548 33	91
92	1.230	95 039	37 560	403 18	977 90	574 72	92
93	1.394	95 308	.39 816	379 07	979 13	.600 06	93
94	1.591	95 567	42 273	354 25	.980 31	·626 o6	94
95	1'143	95 797	.44 697	'331 07	981 35	650 28	95
96	1.024	96 024	47 370	306 88	982 38	675 50	96
97	933	96 210	49 777	·286 19	983 22	697 03	97
98	· 839	·96 3 94	52 402	264 70	984 05	719 35	98
99	713	96 643	·56 431	.233 65	985 17	751 52	99
100	'558	96 944	62 243	192 43	• 986 52	794 09	100
101	327	97 396	73 399	122 85	988 54	865 69	101
102	.000	98 039	·98 o39	,000 00	990 34	'991 40	102
		, ,,	7 37		77.40	77.40	



O_{M}

$2^{\frac{1}{4}}$ per cent.

CONSTANTS.

Constant.	Number.	Logarithm.
i	·022 5	2.352 182 5
(1+i)	1,055 2	0.000 663 3
$(1+i)^{\frac{1}{2}}$	1.011 187 4	0.004 831 2
$(1+i)^{\frac{1}{2}}$	1.005 578 2	0.002 412 8
ช ช ^น ์	'977 995 I	ī '990 336 7
ν ¹ ν ¹	988 936 4	7.995 168 3
d.	'994 452 8 '022 004 9	7.997 584 2 2.342 519 2
8	022 250 6	2 342 519 2 2 347 341 9
	022 230 0	2 347 342 9

 O_{M}

COMMUTATION TABLE

 $2^{\frac{1}{4}}$ per cent.

x	$\mathbf{D}_{m{x}}$	N_x	S_x	\mathbf{C}_{x}	\mathbf{M}_{x}	R_x	\boldsymbol{x}
10	80 051	2 391 762	54 517 181	264.62	27 420°44	1 192 115'99	10
11	78 025	2 311 711	52 125 419	260.33	27 155°82	1 164 695'55	11
12	76 048	2 233 686	49 813 708	256.84	26 895°49	1 137 539'73	12
13	74 117	2 157 638	47 580 022	253.39	26 638°65	1 110 644'24	13
14	72 233	2 083 521	45 422 384	249.96	26 385°26	1 084 005'59	14
15	70 394	2 011 288	43 338 863	247.96	26 135.30	1 057 620'33	15
16	68 597	1 940 894	41 327 575	245.93	25 887.34	1 031 485'03	16
17	66 841	1 872 297	39 386 681	245.21	25 641.41	1 005 597'69	17
18	65 125	1 805 456	37 514 384	243.75	25 396.20	979 956'28	18
19	63 448	1 740 331	35 708 928	243.51	25 152.45	954 560'08	19
20 21 22 23 24 25	61 809 60 204 58 634 57 097 55 592 54 116	1 676 883 1 615 074 1 554 870 1 496 236 1 439 139 1 383 547	33 968 597 32 291 714 30 676 640 29 121 770 27 625 534 26 186 395	244'42 245'17 246'97 249'16 251'70	24 908.94 24 664.52 24 419.35 24 172.38 23 923.22 23 671.52	929 407.63 904 498.69 879 834.17 855 414.82 831 242.44 807 319.22	20 21 22 23 24 25
26 27 28 29 30	52 67 1 51 254 49 864 48 502	1 329 431 1 276 760 1 225 506 1 175 642	24 802 848 23 473 417 22 196 657 20 971 151 19 795 509	257.74 262.26 265.41 269.83	22 361.41 22 361.41	783 647.70 760 230.75 737 071.54 714 174.59 691 543.05	26 27 28 29 30
31	45 852	1 079 976	18 668 369	278.20	22 087 28	669 181'34	31
32	44 565	1 034 124	17 588 393	282.64	21 809 08	647 094'06	32
33	43 302	989 559	16 554 269	286.74	21 526 44	625 284'98	33
34	42 062	946 257	15 564 710	290.53	21 239 70	603 758'54	34
35	40 846	904 195	14 618 453	294.91	20 949 17	582 518'84	35
36 37 38 39 40 41	39 652 38 481 37 331 36 204 35 097 34 010	863 349 823 697 785 216 747 885 711 681 676 584	13 714 258 12 850 909 12 027 212 11 241 996 10 494 111 9 782 430	298.95 302.68 306.10 310.45 314.06	20 654 26 20 355 31 20 052 63 19 746 53 19 436 08 19 122 02	561 569 67 540 915 41 520 560 10 500 507 47 480 760 94 461 324 86	36 37 38 39 40 41
42 43 44 45 46	32 944 31 896 30 867 29 856 28 863	642 574 609 630 577 734 546 867 517 011	9 702 430 9 105 846 8 463 272 7 853 642 7 275 908 6 729 041	322.67 326.84 331.77 336.69 342.28	18 803.87 18 481.20 18 154.36 17 822.59 17 485.90	442 202'84 423 398'97 404 917'77 386 763'41 368 940'82	42 43 44 45 46
47	27 885	488 148	6 212 030	348·15	17 143.62	351 454'92	47
48	26 924	460 263	5 723 882	354·27	16 795.47	334 311'30	48
49	25 977	433 339	5 263 619	361·27	16 441.20	317 515'83	49
50	25 044	407 362	4 830 280	368·43	16 079.93	301 074'63	50
51	24 124	382 318	4 422 918	376·36	15 711.50	284 994'70	51
52	23 217	358 194	4 040 600	384·37	15 335 14	269 283'20	52
53	22 322	334 977	3 682 406	392·76	14 950 77	253 948'06	53
54	21 438	312 655	3 347 429	402·06	14 558 01	238 997'29	54

M

COMMUTATION TABLE

 $2^{\frac{1}{4}}_{\text{CENT.}}^{\text{PER}}$

x	\mathbf{D}_{x}	\mathbb{N}_x	S_x	\mathbf{C}_{x}	\mathbf{M}_{x}	R_x	x
5 6	20 564° 19 700° 18 846°	291 217.	3 034 774 ² 2 743 557 ² 2 472 904 ²	411.33 420.82 430.84	14 155'95 13 744'62	224 439·28 210 283·33 196 538·71	55 56 57
58	18 000.	214 107. 332 104.	1 989 844.	441 . 00 421.30	13 323'77 12 892'93 12 451'93	18 3 214 9 4 1 70 322 0 1	58 59
60 61 62	16 3 34.	1 62 0 06. 180 010. 106 044.		461°19 471°17 480°74	11 000.63 11 230.44 11 068.27	157 8 7 0:08 145 869:45 134 330:01	60 61 62
•	13 101. 13 894.	136 498. 136 397.	1 233 087. 1 082 692. 946 194.	489.66 49 7.9 6 505.42	9 599 . 91 10 094.84 9 299.91	123 261'74 112 674'21 102 576'34	63 64 65
66 67 68	10 774.	99 543 . 88 769.	822 797. 612 172.	511.45 210.31	8 583.07 8 066.83	92 976.43 83 881.94 75 298.87	66 67 68
69 70 71	9 280'4 8 555'7 7 848'0	78 749.4 69 469.0 60 913.3	523 403.0 444 653.6 375 184.6	520.25 519.34 516.00	7 547 [.] 52 7 027 [.] 00 6 507 [.] 63	67 232 04 59 684 52 52 657 52	69 70 71
72 73 74	7 159'3 6 492'0 5 848'1	53 065'3 45 906'0 39 414'0	314 271'3 261 206'0	509.47 501.06 488.90	5 991.63 5 481.86 4 980.80	46 149.89 40 158.26 34 676.40	72 78 74
75 76 77	5 230.2 4 641.2	33 565.9 28 335.4	175 886°0 142 320°1	473°90 455°90	4 491.90 4 018.00 3 562.10	29 695.60 25 203.70	75 76 77
78 79	4 083.2 3 559.0 3 070.2	23 693'9 19 619'4 16 051'4	90 290·8 70 680·4	434'59 410'54 383'80	3 127.21 2 716.97	21 185'70 17 623'60 14 496'09	78 79
80 81 82	2 618·8 2 206·6 1 834·4	12 981'2 10 362'4 8 155'8	41 647 [.] 8 31 285 [.] 4	354·58 323·71 291·35	2 333.17 1 978.59 1 654.88	11 779'12 9 445'95 7 467'36	80 81 82
83 84 85	1 502.6 1 211.3 959.42	6 321.4 4 818.8 3 607.52	11 989 ·3 8	258·25 225·26 193·00	1 363.23 1 102.58 880.05	5 812·48 4 448·95 3 343·67	83 84 85
86 87 88	7 45'30 566'99 4 21'4 2	2 648·10 1 902·80 1 335·81	8 381·86 5 733·76 3 830·96	106.60 133.00 191.01	687.02 525.11 393.03	2 463 [.] 65 1 776 [.] 63 1 251 [.] 52	86 87 88
90 91	3°5°45 215°44 147°33	914·39 608·94 393·50	2 495°15 1 580°76 971°82	83.289 63.369 46.481	285°333 202°044 138°675	859 [.] 501 574 [.] 168 372 [.] 124	89 90 91
92 93 94	97.611 62.253 38.283	246°175 148°564 86°311	578·323 332·148 183· 5 84	33.210 22.600 14.976	92·194 58·984 36·384	233'449 141'255 82'271	92 93 94
95 96 97	22.465 12.639 6.700 2	48 [.] 028 25 [.] 563 12 [.] 923 7	97 ² 73 49 ² 45 23 ⁶⁸² 0	9°331 4 5'660 5	21'407 7 12'076 3 6'415 8	45 [.] 886 6 24 [.] 478 9 12 [.] 402 6	96
98 99 100	3·389 3 1·657 4 •756 4	6.223 5 2.834 2 1.176 8	10.758 3 4.534 8	1.657 4 .864 5	3°252 4 1°595 0	5 [.] 986 8 2 [.] 734 4 1 [.] 139 4	98 99
101 102	750 4 317 0 103 4	'420 4 '103 4	1.700 6 .523 8 .103 4	'422 7 '206 7 '101 1	.430 5 .307 8 .101 1	1 139 4 101 1	101

$$N_x = D_x + D_{x+1} + \dots$$

 $S_x = N_x + N_{x+1} + \dots$

OM LOGARITHMS AND CO-LOGARITHMS OF D_x , N_x , C_x , M_x $2\frac{1}{4}$ cent.

x	$\log \mathcal{D}_{x}$	$\log N_x$	$\log \mathrm{C}_x$	$\log M_x$	$\operatorname{col}\mathbf{D}_{x}$	$col N_x$	$\operatorname{col} \mathrm{C}_x$	$\operatorname{col} \mathbf{M}_x$	\boldsymbol{x}
_									
10 11	4 [.] 903 37 -892 23	6·378 72 ·363 93	2'422 62 '415 52	4 [.] 438 07 .433 86	5.096 63 107 77	7·621 28 ·636 07	3·577 38 ·584 48	5·561 93 ·566 14	10 11
12 13	·881 09 ·869 92	'349 02 '333 98	'409 67 '403 79	'429 68 '425 51	.118 91	.650 98	'590 33 '596 21	'570 32 '574 49	12 13
14	·858 74	.318 80	397 88	425 34	130 00	681 20	.602 12	578 64	14
15	·847 53	303 47	394 39	417 23	152 47	696 53	605 61	.582 77	15
16 17	·836 30 ·825 04	288 00	390 82	413 09	·163 70 ·174 96	712 00	610 46	.286 91 .291 06	16 17
18	813 75	256 59	386 94	404 77	186 25	743 41	613 06	595 23	18
19	.802 42	'240 63	386 52	400 58	197 58	759 37	61348	599 42	19
20	791 05	224 50	388 14	396 36	208 95	775 50	.611 86	603 64	20
21 22	779 63	191 69	389 47 392 64	392 07 387 73	·220 37 ·231 85	·791 81 ·808 31	610 53	612 27	21 22
23	756 61	175 00	396 47	383 32	231 33	825 00	603 53	.616 68	23
24	'745 01	158 10	'400 88	378 82	254 99	·841 90	'599 12	621 18	24
25	733 33	140 99	'405 81	374 23	266 67	·859 o1	594 19	625 77	25
26 27	'721 57 '709 73	123 67	411 19	369 53	·278 43 ·290 27	876 33	·588 81 ·581 26	630 47 635 28	26 27
28	697 79	*088 32	413 74	359 78	302 21	.911 68	576 09	640 22	28
29	.685 76	'070 28	431 09	354 71	314 24	929 72	.268 91	645 29	29
30	.673 61	.021 98	438 42	'349 50	'326 39	948 02	·561 58	650 50	30
31	661 36	033 41	444 36	344 14	338 64	966 59	:555 64	655 86	31
32 33	648 99 636 50	5'995 44	451 23	338 64	.351 o1 .363 20	- '985 43 6'004 56	'548 77 '542 51	.661 36 .667 03	32 33
34	623 89	976 01	463 19	332 97	376 11	023 99	.236 81	672 85	84
35	611 15	956 26	.469 69	321 17	.388 85	*043 74	.230 31	678 83	35
36	598 27	936 19	475 60	315 01	401 73	.063 81	524 40	684 99	36
37 38	·585 24 ·572 07	'915 77 '894 99	'480 98 '485 86	308 68	414 76	105 01	'519 02 '514 14	691 32 697 83	37 38
39	558 75	873 83	491 99	295 49	441 25	126 17	.208 01	704 51	39
40	545 27	.852 29	'497 01	288 61	454 73	147 71	.502 99	711 39	40
41	.231 91	.830 32	.202 63	.581 23	468 39	169 68	497 37	71847	41
42	517 77	807 92	.508 76	274 25	'482 23	192 08	491 24	725 75	42
43 44	'503 74 '489 5 0	785 07	'514 33 '520 84	266 73	'496 26 '510 50	214 93	'485 67 '479 16	733 27	43 44
45	475 04	737 88	527 23	250 97	524 96	.262 12	472 77	'749 03	45
46	'460 34	71350	534 38	242 69	.539 66	·286 50	465 62	757 31	46
47	'445 38	·688 5 5	'541 77	'234 10	554 62	'311 45	458 23	'765 90	47
48	'430 13	.663 oī	549 34	225 19	.569 87	336 99	450 66	77481	48 49
49	414 59	636 83	557 83	215 93	'585 41	363 17	442 17	'784 07	i :
50 51.	·398 70 ' ·382 46	609 98	·566 36	196 22	.601 30 .617 54	390 02	'433 64 '424 40	.793 72 .803 78	50 51
51. 52	365 81	'582 42 '554 12	575 60 584 75	190 22	634 19	417 58	424 45		52
53	348 73	525 01	594 12	174 66	651 27	474 99	'405 88	'825 34	53
54	.331 19	'495 07	.604 29	.163 10	.668 81	.204 93	'395 71	·836 90	54
			37		<u> </u>	<u> </u>	l		

OM LOGARITHMS AND CO-LOGARITHMS OF D_x , N_x , C_x , M_x $2\frac{1}{4}$ PER CENT.

x	$\log \mathcal{D}_x$	$\log N_x$	$\log \mathrm{C}_{x}$	$\log M_x$	$\operatorname{col} \operatorname{D}_{x}$	$\operatorname{col} \mathbf{N}_x$	col C _x	$\operatorname{col} \mathbf{M}_x$	x
55 58	4'313 11	5'464 22	2.614 19	4'150 94 '138 13	5·686 89 ·705 52	6·535 78 ·567 59	3·385 81 375 88	5·849 o6 ·861 87	55 56
57	275 22	399 59	634 32	124 63	724 78	600 41	365 68	875 37	57
58	255 28	365 69	644 44	110 35	744 72	634 31	355 56	889 65	58
59	·234 60	330 63	654 47	'095 24	.765 40	'669 37	345 53	'904 76	59
60	'213 10	·294 34	.663 88	'079 20	·786 90	705 66	'336 12	920 80	60
61	190 72	256 74	673 18	'062 18	·809 28	743 26	326 82	937 82	61
62	167 35	'217 74	.681 91	·044 o8	·832 65	782 26	318 09	955 92	62
63	142 92	177 23	.689 90	·024 79	·857 o8	822 77	310 10	975 21	63
64	117 32	135 13	'697 19	'004 23	·882 68	·864 87	'302 81	'995 77	64
65	·090 44	·091 30	'703 66	3.982 27	·9 0 9 56	908 70	'296 34	4.017 73	65
66	· 062 16	.045 64	.708 77	958 78	937 84	954 36	'291 23	'041 22	66
67	.032 36	4.998 01	71285	933 64	·967 64	<u>5.001</u> 99	'287 15	·o66 36	67
68	.000 88	948 26	715 43	906 70	999 12	'051 74	284 57	.093 30	68
69	3.967 27	·896 25	716 44	·877 8o	4 032 43	103 75	283 56	122 20	69
70	932 25	·841 79	715 48	.846 77	·067 75	15821	284 52	153 23	70
71	894 76	784 71	712 65	813 42	105 24	215 29	287 35	186 58	71
72	.854 87	72481	707 37	777 54	145 13	275 19	292 63	222 46	72
78 74	·812 38	661 87	699 89	738 93	187 62	338 13	300 11	261 07	73 74
	767 02	.595 65	'689 22	697 30	232 98	'404 35	310 78	302 70	
75	718 55	525 90	675 69	652 43	281 45	474 10	324 31	347 57	75
76 77	.666 66	452 33	658 87 638 08	604 01	333 34	547 67	341 13	395 99	76 77
78	.611 03	'374 64 '292 49	613 36	'551 71 '495 20	'388 97 '448 67	625 36	386 64	'448 29 '504 80	78
79	487 16	292 49	'584 11	434 08	512 84	794 49	415 89	565 92	79
80	41811	.113 31	549 71	367 95	581 89	886 69	450 29	632 05	80
81	343 73	015 46	510 16	296 36	656 27	984 54	489 84	703 64	81
82	263 48	3.911 47	464 41	218 77	736 52	4.088 23	535 59	781 23	82
83	176 86	·800 81	412 04	134 66	823 14	.199 19	587 96	865 34	83
84	·083 26	682 94	352 68	.043 47	916 74	'317 06	647 32	956 53	84
85	2.082 01	.557 21	285 56	2'944 49	3.017 99	'442 79	714 44	3.055 21	85
86	.872 33	422 93	209 28	836 97	127 67	577 07	790 72	163 03	86
87	753 57	279 39	124 14	720 25	246 43	720 61	875 86	279 75	87
88	624 72	125 74	·028 14	·593 31	·375 28	.874 26	971 86	406 69	88
89	'484 95	2.961 13	1.920 29	455 35	.212 02	3.038 84	2'079 41	.544 65	89
90	'333 33	.784 57	.801 88	305 45	·666 67	215 43	198 12	694 55	90
91	168 30	· 5 94 94	.667 28	142 00	831 20	'405 06	'332 72	858 00	91
92	1,080 20	391 24	521 27	1.964 20	2.010 20	608 76	'478 73	2.032 30	92
93	794 16	171 91	354 10	770 73	'205 84	-828 09	645 90	229 27	93 94
94	.283 01	1.936 07	175 41	.260 91	'416 99	2.063 93	·824 59	'439 09	
95	351 50	·681 49	0.969 95	330 57	648 50	.318 21	1.030 02	669 43	95
96	10171	'407 61	752 85	.081 93	.898 29	'592 3 9	247 15	918 07	96 97
97 98	0.826 09	'111 39		0.807 25	1°173 91 '469 88	888 61	780 58	1°192 75 '487 80	98
99	'530 12 '219 42	°794 03 °452 43	1.936 42 1.936 42	'512 20 '202 76	·780 58	1°205 97	0.063 24	797 24	99
		1			_	l .	ľ		
100 101	ī·878 77	'070 70 T'602 66	626 07		0'121 23	°929 30 0°376 34	'373 93 '684 63	0°136 38	101
102	'501 13 '014 34	1.623 66 .014 34	'315 37 '004 68	'488 27 '004 68	·498 87 ·985 66	985 66	995 32	995 32	102
	V-+ 34	7-4 34) 004 00 NT	004 00	303 00	1 303 00	773 32	223 32	

VALUES OF a_x , A_x , P_x . LOGARITHMS OF a_x , A_x , P_x $2\frac{1}{4}$ per cent.

\boldsymbol{x}	a_x	\mathbf{A}_{x}	\mathbf{P}_{x}	$\log a_x$	$\log A_x$	$\log P_x$	\boldsymbol{x}
10	28·878 28·628	'34 ² 53 '34 804	°01 146	1°475 35 '471 70	ī'534 70 '541 63	2.059 35 .069 93	10 11
12	28.372	35 366	01 204	467 93	548 59	.080 66	12
13	28.111	35 941	·01 235	464 06	555 59	.091 23	13
14	27.844	36 528	·01 266	460 06	.262 62	102 56	14
15	27.572	'37 128	· 01 2 99	455 94	.569 70	113 76	15
16	27.294	'37 739	°01 334	'451 70	.576 79	125 09	16
17	27.012	'38 362	.01 340	'447 33	.283 90	136 57	17
18	26.723	.38 996	·01 407	'442 84	.201 05	148 18	18
19	26.429	39 642	01 445	'438 21	.598 16	.159 95	19
20	26.130	'40 300	°01 485	'433 45	.602 31	171 86	20
21	25.826	'40 968	°01 527	'428 56	612 44	.183 88	21
22	25.218	41 647	.01 271	423 54.	.619 28	196 04	22
23	25'205	'42 336	.01 919	·418 39	626 71	.208 32	23
24	24.887	'43 °34	.01 665	'413 09	.633 81	220 72	24
25	24.266	43 742	.01 711	'407 66	640 90	'233 24	25
26	24'240	44 459	·01 761	'402 10	647 96	.245 86	26
27	23.911	45 185	·01 814	·396 38	654 99	.258 61	27 .
28	23.27	45 919	.01 898	.350 23	.661 99	.271 46	28
29	23.539	'46 661	·01 925	'384 52	668 95	·284 43	29
30	22.898	47 412	·01 984	·378 37	675 89	297 52	30
31	22.223	'48 170	*02 045	372 05	682 78	'310 73	31
32	22.502	·48 938	.03 109	.365 28	689 65	'324 07	32
33	21.823	49 713	·02 175	'358 94	'696 47	337 53	33
34	21.497	·50 496	·02 245	352 12	703 26	351 14	34
35	21.132	.51 289	'02 317	'345 11	710 02	'364 91	35
36	20.773	·52 o88	.02 392	'337 9 ²	716 74	378 82	36
37	20'406	52 898	'02 47 1	·33° 53	'723 44	392 91	37
38	20.034	.53 716	·02 554	322 92	'730 10	'407 18	38
39	19.658	54 543	·02 640	.315 08	736 74	'421 66	39
40	19.277	55 378	'02 731	307 02	'743 34	'436 32	40
41	18.893	.56 224	02 826	298 71	749 92	451 21	41
42	18.202	·57 °79	·02 926	290 15	.756 48	'466 33	42
43	18.113	57 942	.03 032	281 33	762 99	·481 66	43
44	17.717	.58 814	'03 142	'272 23	'769 48	497 25	44
45	17:317	.29 694	03 259	.262 84	775 93	.213 09	45
46	16.913	.60 583	.03 382	.253 16	782 35	'529 19	46
47	16.206	61 478	.03 212	243 17	788 72	545 55	47
48	16.092	62 382	03 649	.232 88	795 06	.562 18	4.8
49	15.682	63 291	° 03 794	222 24	'801 34	.579 10	49
50	15.566	.64 207	·03 947	'211 28	.807 58	.296 30	50
51	14.848	65 127	·04 110	.199 96	'813 76	.613 80	51
52	14.428	·66 o51	'04 281	188 31	.819 88	.631 27	52
5 3	14.007	66 978	·04 463	176 28	825 93	649 65	53
54	13.284	·67 9 0 6	·04 656	.163 88	.831 91	·668 o3	54
				<u> </u>		1	<u> </u>

VALUES OF a_x , A_x , P_x . LOGARITHMS OF a_x , A_x , P_x $2\frac{1}{4}$ per cent.

\boldsymbol{x}	a_x	$\mathbf{A}_{m{x}}$	\mathbf{P}_{x}	$\log a_x$	$\log \mathbf{A}_x$	$\log \mathrm{P}_x$	\boldsymbol{x}
55	13,161	·68 8 ₃ 8	·04 861	1,121 11	ī·837 83	2·686 72	55
56	12.738	69 767	.02 048	137 93	843 65	705 72	56
57	12.316	70 698	.02 300	137 93	849 41		57
58	11.895	71 626		110 41	955.05	725 04	
59	11.475	72 550	°05 555		·855 07 ·860 64	'744 66 '764 67	58 50
1			-	·096 03		'764 61	59
60	11.057	73 468	.06 003	'081 24	.866 10	·784 86	60
61	10.642	74 381	.06 389	·066 02	.871 46	·805 44	61
62	10.530	75 289	·06 704	.020 39	.876 73	.826 34	62
63	9.822	.76 185	.07 040	·034 31	.881 87	·847 56	63
64	9.419	`77 0 74	.07 398	·017 81	.886 91	·869 10	64
65	9.030	77 952	.07 780	.000 86	.89183	·89 o 9 7	65
66	8.627	.78 817	·08 187	0.983 48	1896 62	'913 14	66
67	8.240	.79 667	08 622	965 65	901 28	935 63	67
68	7.859	·8o 5o4	·09 o87	'947 38	905 82	958 44	68
69	7.486	·81 326	09 584	928 68	910 23	.981 22	69
70	7.120	.82 133	10 115	·909 54	914 52	ī·004 98	70
71	6.762	.82 920	10 683	.889 95	.918 66	028 71	71
72	6.412	·83 689	11 291	1869 94	922 67	052 73	72
73	6.011	·84 440	11 942	849 49	926 55	·077 06	73
74	5.740	·85 i 69	12 637	828 63	930 28	101 65	74
75	5'417	·85 878	13 382	.807 35	933 88	126 53	75
76 76	5.102	·86 567	13 302	785 67		120 53	76
77	4.802	87 233	15 034	763 61	.937 35 .940 68	177 07	77
78	4.210	·87 876	15 948	741 16	943 87	202 71	78
79	4.228	·88 495	15 940	741 10	'946 92	.228 57	79
	· ·						80
80	3.957	·89 092 ·89 666	17 974	695 20	949 84	°254 64 °280 90	81
81	3.696		19 094	671 73	952 63		82
82	3°446 3°207	90 217	20 291	647 99	955 29	·307 30 ·333 85	83
83	2.978	.90 740 .91 245	21 570	·623 95 ·599 68	957 80	333 °3 360 53	84
84		l i	22 937		960 21		
85	2.760	91 723	°24 394	575 20	962 48	387 28	85
86	2.223	92 181	25 944	·550 60	964 64	414 04	86
87	2.356	92 615	27 597	.525 82	966 68	440 86	87
88	2'170	93 023	29 347	'501 02	968 59	·467 57	88 89
89	1,004	93 411	31 205	·476 18	'970 40	494 22	
90	1.826	.93 782	.33 180	451 24	972 12	520 88	90
91	1.671	'94 124	35 242	426 64	'973 70	.547 06	91
92	1.222	94 450	'37 45 ¹	'401 74	975 20	573 46	92
93	1.386	'94 748	39 703	377 75	976 57	598 82	93
94	1.522	·95 o39	42 154	·353 o6	977 90	624 84	94
95	1.138	·95 295	[.] 44 574	·329 99	.979 07	.649 08	95
96	1.053	·95 548	47 241	.302 90	980 22	674 32	96
97	.929	95 755	49 643	.285 30	.981 16	·69 <u>5</u> 86	97
98	·8 3 6	.95 928	.52 260	.563 91	982 08	.71817	98
99	.410	·96 237	156 277	.533 01	[.] 983 34	·750 33	99
100	•556	·96 572	62 075	191 93	984 85	792 92	100
101	.326	·97 o82	73 217	122 53	987 14	·864 61	101
102	.000	·97 8oo	97 800	,000 00	990 34	·99 0 34	102
				<u> </u>			

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$2^{\frac{1}{2}}$ per cent.

CONSTANTS.

Constant.	Number.	Logarithm.
<i>i</i> (1+ <i>i</i>)	°025	2·397 940 0 0·010 723 9
$(1+i)^{\frac{1}{2}}$ $(1+i)^{\frac{1}{2}}$	1'012 422 8	0.002 981 0
ช ช\ ช\	'975 609 8 '987 729 6 '993 845 9	ī·989 276 1 ī·994 638 1 ī·997 319 0
d δ	°024 390 2 °024 692 6	2·387 216 1 2·392 567 0

 O_{M}

COMMUTATION TABLE

 $2^{rac{1}{2}}$ PER

\boldsymbol{x}	\mathbf{D}_{x}	N_x	S_x	\mathbf{C}_{x}	\mathbf{M}_{x}	R_x	x	
10	78 120	2 214 979	48 952 817	257.60	24 095'92	1 021 003'74	10	
11	75 957	2 136 859	46 737 838	252.81	23 838'32	996 907'82	11	
12	73 852	2 060 902	44 600 979	248.82	23 585'51	973 069'50	12	
13	71 801	1 987 050	42 540 077	244.87	23 336'69	949 483'99	13	
14	69 806	1 915 249	40 553 027	240.97	23 091'82	926 147'30	14	
15 16 17 18 19	67 862 65 968 64 123 62 325 60 572	1 845 443 1 777 581 1 711 613 1 647 490 1 585 165	38 637 778 36 792 335 35 014 754 33 303 141 31 655 651	238.46 235.93 234.67 232.70	22 850·85 22 612·39 22 376·46 22 141·79 21 909·09	903 055.48 880 204.63 857 592.24 835 215.78 813 073.99	15 16 17 18 19	
20	58 863	1 524 593	30 070 486	232·20	21 677'19	791 164·90	20	
21	57 194	1 465 730	28 545 893	232·34	21 444'99	769 487·71	21	
22	55 567	1 408 536	27 080 163	233·48	21 212'65	748 042·72	22	
23	53 978	1 352 969	25 671 627	234·97	20 979'17	726 830·07	23	
24	52 427	1 298 991	24 318 658	236·79	20 744'20	705 850·90	24	
25	50 912	1 246 564	23 019 667	238·91	20 507'41	685 106.70	25	
26	49 431	1 195 652	21 773 103	241·30	20 268'50	664 599.29	26	
27	47 984	1 146 221	20 577 451	244·93	20 027'20	644 330.79	27	
28	46 568	1 098 237	19 431 230	247·26	19 782'27	624 303.59	28	
29	45 186	1 051 669	18 332 993	250·77	19 535'01	604 521.32	29	
30	43 833	1 006 483	17 281 324	254'42	19 284.24	584 986:31	30	
31	42 509	962 650	16 274 841	257'29	19 029.82	565 702:07	31	
32	41 215	920 141	15 312 191	260'75	18 772.53	546 672:25	32	
33	39 949	878 926	14 392 050	263'89	18 511.78	527 899:72	38	
34	38 711	838 977	13 513 124	266'73	18 247.89	509 387:94	34	
35	37 500	800 266	12 674 147	270.09	17 981'16	491 140.05	35	
36	36 315	762 766	11 873 881	273.12	17 711'07	473 158.89	36	
37	35 156	726 451	11 111 115	275.85	17 437'95	455 447.82	37	
38	34 023	691 295	10 384 664	278.29	17 162'10	438 009.87	38	
39	32 915	657 272	9 693 369	281.56	16 883'81	420 847.77	39	
40	31 830	624 357	9 036 097	284.14	16 602°25	403 963 96	40	
41	30 770	592 527	8 411 740	287.13	16 318°11	387 361 71	41	
42	29 732	561 757	7 819 213	290.50	16 030°98	371 043 60	42	
43	28 717	532 025	7 257 456	293.54	15 740°48	355 012 62	43	
44	27 723	503 308	6 725 431	297.24	15 446°94	339 272 14	44	
45	26 749	475 5 ⁸ 5	6 222 123	300.91	15 149'70	323 825 20	45	
46	25 796	448 836	5 746 538	305.17	14 848'79	308 675 50	46	
47	24 862	423 040	5 297 702	309.64	14 543'62	293 826 71	47	
48	23 946	398 178	4 874 662	314.32	14 233'98	279 283 09	48	
49	23 047	374 232	4 476 484	319.74	13 919'66	265 049 11	49	
50	22 166	351 185	4 102 252	325.29	13 599'92	251 129'45	50	
51	21 300	329 019	3 751 067	331.47	13 274'63	237 529'53	51	
52	20 448	307 719	3 422 048	337.71	12 943'16	224 254'90	52	
53	19 612	287 271	3 114 329	344.23	12 605'45	211 311'74	53	
54	18 790	267 659	2 827 058	351.53	12 261'22	198 706'29	54	
N - D + D								

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COMMUTATION TABLE

 $2^{rac{1}{2}}_{
m cent.}$

\boldsymbol{x}	\mathbf{D}_{x}	\mathbb{N}_x	S_x	\mathbf{C}_{x}	M_x	R_x	x
5 5	17 980'	248 869	2 559 399	358.76	11 000.60	186 445.07	55
56	17 182.	230 889.	2 310 230.	366.16	11 220.03	174 535.38	56
57	16 397.	213 707.	2 079 641.	373'95	11 184.77	162 984.45	57
58	15 623.	197 310.		381.83	10 810.83	151 799.68	58
59	14 860.	181 687.	1 668 624.	389.79	10 428 99	140 988.86	59
60	14 108.	166 827	1 486 937	397:36	10 039.30	130 559.87	60
61	13 367.	152 719	1 320 110.	404.98	9 641 84	120 520.67	61
62	12 636.	139 352.	1 167 391.	412.19	9 236.86	110 878.83	62
63	11 915.	126 716.	1 058 030.	418.81	8 824.67	101 641 97	68
64	11 506.	114 801.	901 323.	424.87	8 405.86	92 817:30	64
65	10 208.	103 595.	786 522	430'19	7 980.99	84 411 44	65
66	9821.5	93 087.2	682 927.4	434'23	7 550.80	76 430.45	66
67	9 147'4	83 266.0	589 840.3	437.25	7 116.27	68 879.65	67
68	8 487°1	74 118.6	506 574.5	438.78	6 679.32	61 763.08	68
69	7 841.3	65 631.5	432 455.6	438.73	6 240 54	55 083.76	69
70		l .	366 824.1	436.40	2 801.81		70
71	7 211'3	57 790'2			5 365.11	48 843'22 43 041'41	71
71 72	6 598.7	50 578.9	309 033.9	432.80			72
	6 005.0	43 980.2	258 455.0	426.53	4 932.31	37 676 30	78
73	5 432.0	37 975.2	214 474.8	418.23	4 505.78	32 743 99	
74	4 881.3	32 543.2	176 499.6	407.08	4 087.55	28 238.51	74
75	4 355°1	27 661 9	143 956.4	393.63	3 680.47	24 150.66	75
76	3 855.3	23 306.8	116 294.5	377.75	3 286 ·84	20 470'19	76
77	3 383.5	19 451.2		359.55	2 909.09	17 183.35	77
78	2 941.8	16 068.0	73 536.2	338.21	2 549.87	14 274.26	78
79	2 531.2	13 126.5	57 468.2	315.69	2 211.36	11 724.39	. 79
80	2 154'1	10 594.7	44 342'0	290'94	1 895.67	9 513.03	80
81	1 810.6	8 440.6	33 747 3	264.97	1 604.73	7 617.36	81
82	1 501.2	6 630.0		237.90	1 339.76	6 012.63	82
83	I 227 O	5 128.5	18 676.7	210.32	1 101.86	4 672.87	83
84	986.69	3 901.21	13 548 16	183.03	891.21	3 571.01	84
85	779'58	2 914.82	9 646.65	156.44	708·4 8	2 679.50	85
86	604'13	2 135.54		130'92	552.04	1 971.02	86
87	458.47	1 231,11		107.35	421'12	1 418.98	87
88	339.93	1 072.64	3 065.48	85.853	313.770	997.862	88
89	245 [.] 79	732.71	1 992.84	66.856	227.917	684.092	89
90		486.92	, ,		161,061		90
91	172'94	313.98	1 260.13	50.742		456.175	91
92	117'98		773.21	37°129 26°463	110.310	295°114 184°795	92
93	77 [.] 970 49 [.] 606	195.996	459.225	17.964	73°190 46°727	111 605	93
94	30'431	68.420	263 :22 9 14 5:2 03	11.876	28.763	64.878	94
			1.	_			
95	17.814	37.989	76.783	7'381 4	16.886 8	36.112 5	
96	9'997 5	20'1748	38.794 4	4.466 6	9.505 4	19.228 4	
97	5.287 0	10.177 3		2'490 1	5.038 8	9.7230	
98 99	2.668 o	4.890 3	8.442 3	1.301 2	2.548 7	4.684 2	98 99
	1.301 2	2.222 3	3.220	.677 2	1.542 5	2'135 5	
100	·592 5	9208	1,356 4	.330 3	.570 0	888 3	100
101	247 7	328 3	:408 9	161 1	·239 7	.318 3	101
102	.080 6	.080 6	·o8o 6	·o78 6	·078 6	.078 6	102

 $\mathbf{N}_{x} = \mathbf{D}_{x} + \mathbf{D}_{x+1} + \dots$ $\mathbf{S}_{x} = \mathbf{N}_{x} + \mathbf{N}_{x+1} + \dots$

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LOGARITHMS AND CO-LOGARITHMS OF D_x , N_x , C_x , M_x , $2^{\frac{1}{2}}_{\text{CENT}}^{\text{PER}}$

x	$\log \mathcal{D}_x$	$\log N_x$	$\log \mathbf{C}_x$	$\log \mathrm{M}_x$	$\operatorname{col} \operatorname{D}_x$	$\operatorname{col} \mathbf{N}_x$	$\operatorname{col} \mathbf{C}_{x}$	$\operatorname{col} \mathbf{M}_x$	\boldsymbol{x}
		6:017.05	2:470.05	44984.04	F: 707.04	7.654 63	3·589 o5	<u></u>	10
10 11	1.892 76 .880 57	6.345 37	2'410 95	4·381 94 '377 27	5.107 24	670 22	597 21	622 73	11
12	·868 <u>3</u> 6	'314 06	'395 88	37265	131 64	.685 94	604 12	627 35	12
13	.856 13.	298 21	388 94	368 04	143 87	701 79	618 03	·631 96 ·636 54	13 14
14	.843 89	'282 23	.381 97	'363 46	.126 11	717 77			
15	·831 62	266 10	377 42	.358 90	·168 38	733 90	622 58	641 10 645 65	15 16
16 17	·819 33 ·807 02	249 83	372 79 370 45	354 35 349 79	192 98	750 17	629 55	650 21	17
18	794 66	216 82	366 79	345 21	205 34	783 18	633 21	654 79	18
19	782 27	'200 07	'365 31	340 62	217 73	'799 93	.634 69	659 38	19
20	.769 84	183 15	365 86	.336 00	·230 16	81685	634 14	.664 00	20
21	757 35	166 05	.366 13	331 33	'242 65	·833 95	633 87	668 67	21
22	.744 82	148 77	368 25	326 59	255 18	851 23	631 75	673 41	22
23	732 22	131 29	371 02	321 79	·267 78 ·280 45	886 39	628 98	·678 21 ·683 10	23 24
24	719 55	11361	374 37	.316 90				-	1 1
25	.706 82 .694 00	095 71	378 24 382 55	.306 82	306 00	904 29	621 76	.688 og	25 26
26 27	681 10	059 27	389 04	301 62	318 90	940 73	.610 96	698 38	27
28	.668 09	'040 70	393 16	296 28	.331 91	959 30	606 84	703 72	28
29	.655 00	.021 88	399 27	1290 81	345 00	978 12	600 73	709 19	29
30	.641 80	.002 81	405 55	.285 20	.358 20	997 19	594 45	71480	30
81	628 48	5'983 47	410 42	'279 43	371 52	6.016 23	589 58	720 57	31
32	615 06	.963 85	416 23	273 52	384 94	036 15	583 77	726 48	32
83	601 51	'943 95	'421 43	267 45	398 49	056 05	578 57	732 55 738 79	33 34
34	·587 83	⁻ 9 ² 3 75	426 07	261 21	412 17	076 25	573 93		
35	574 03	903 23	'431 51	254 82	425 97	.096 22	568 49	'745 18 '751 76	35 36
36 37	'560 09 '546 0 0	882 39	'436 36 '440 68	·248 24 ·241 50	'439 91 '454 00	11701	559 32	751 70	37
38	531 77	839 66	444 50	234 57	468 23	160 34	555 50	765 43	38
39	517 39	81775	449 57	227 47	482 61	182 25	550 43	772 53	39
40	.502 84	795 43	453 53	.220 17	497 16	204 57	.546 47	.779 83	40
41	488 13	77271	458 08	21267	.51187	227 29	.241 92	787 33	41
42	473 23	749 55	'463 15	204 96	526 77	250 45	.536 85	795 04	42
43	'458 14	725 93	467 67	197 02	.541 86	274 07	·532 33	·802 98 ·811 16	43 44
44	.442 84	.701 83	'473 11	188 84	557 16	298 17	.526 89		1 1
45	427 31	677 23	478 44	180 40	572 69	322 77	521 56	·81960 ·82831	45 46
46 47	'411 55 '395 53	652 09	'484 54 '490 86	171 69	·588 45 ·604 47	347 91	515 40	·837 33	47
48	395 53	600 08	497 37	153 32	620 77	373 92	502 63	·846 68	48
49	362 62	573 14	504 80	143 63	637 38	426 86	495 20	856 37	49
50	'345 68	545 54	512 27	133 54	.654 32	.454 46	487 73	·866 46	50
51	·328 37	'517 22	520 45	123 02	671 63	482 78	'479 55	·876 98	51
52	.310 66	488 15	.528 55	112 04	.689 34	.21182	47 1 45	887 96	52
53	292 52	458 29	.536 85	100 56	707 48	541 71	'463 15 '454 04	·899 44 ·911 47	53 54
54	·273 92	'427 58	'545 96	·o88 53	.726 08	.572 42	454 04	9114/	U-12
			NT.	T) . T	<u> </u>	<u> </u>	1		<u>'</u>

OM LOGARITHMS AND CO-LOGARITHMS OF D_x , N_x , C_x , M_x , $2^{\frac{1}{2}}_{2}$ cent.

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\boldsymbol{x}	$\log \mathcal{D}_x$	$\log N_x$	$\log \mathbf{C}_x$	$\log \mathbf{M}_x$	$\operatorname{col} \operatorname{D}_{m{x}}$	$\operatorname{col} \mathbf{N}_x$	col C _x	$\operatorname{col} \mathbf{M}_x$	x
55 56	4 ²⁵⁴ 78 235 08	5'395 97	2.554 80 .563 67	4.075 90 .062 62	5.745 22 .764 92	6.604 03	3.445 20 .436 33	5.924 10 .937 38	55 56
57	233 00	329 82	572 81	048 63	785 23	670 18	427 19	951 37	57
58	193 77	295 15	581 87	'033 86	806 23	704 85	418 13	95- 37	58
59	172 03	259 32	590 83	'018 24	827 97	740 68	'409 17	'981 76	59
	1			•		3	400 82	998 30	60
60	149 47	222 27	599 18	001 70	.850 53	.816 11			61
61	126 02	183 89		3.984 16	·873 98	855 89	392 57 384 90	7.012 84	62
62 63	'101 60 '076 11	144 11	615 10	965 52	·898 40	897 17	304 90	034.48	63
64		102 83	628 26	'945 70	923 89	1		054 30	64
	·049 45	·059 94		'924 58	·950 55	940 06	371 74	·075 42	
65	.021 21	'015 34	633 66	902 06	_'978 49	_'984 66	366 34	·097 94	65
66	3.992 17	4.968 89	637 72	·877 99	4.007 83	5.031 11	362 28	122 01	66
67	.961 30	'920 47	640 73	852 27	.038 20	·079 53	359 27	147 73	67
68	928 76	.869 93	642 25	·824 73	'071 24	130 07	357 75	175 27	68
69	·894 39	817 11	642 20	795 22	.102 91	182 89	357 80	'204 78	69
70	·858 o2	.761 85	640 18	.763 56	·141 98	.238 15	359 82	1236 44	70
71	·81946	703 97	'636 29	.729 58	·180 54	296 03	363 71	270 42	71
72	77851	643 26	629 95	.693 05	1221 49	356 74	370 05	306 95	72
73	'734 96	579 50	.621 41	653 77	.265 04	420 50	378 59	346 23	78
74	688 54	.512 46	.609 68	61146	'311 46	487 54	390 32	388 54	74
75	·639 oo	441 88	*595 09	.565 90	.361 00	.558 12	404 91	434 10	75
76	·586 o6	'367 48	577 21	516 78	413 94	632 52	422 79	483 22	76
77	529 37	288 95	555 36	463 76	470 63	711 05	444 64	.536 24	77
78	468 61	1205 96	529 57	406 52	531 39	794 04	470 43	593 48	78
79	403 38	11814	'499 26	344 66	.596 62	·881 86	·500 74	655 34	79
80	.333 26	025 09	'46381	.277 76	·666 74	'974 91	.536 19	722 24	80
81	257 82	3.926 37	423 19	205 40	742 18	4.073 63	576 81	794 60	81
82	176 52	821 51	376 39	127 03	.823 48	178 49	623 61	872 97	82
83	088 83	'709 99	322 95	'042 14	911 17	290 01	677 05	957 86	83
84	2.994 18	591 23		2.950 13	3.005 82	'408 77	'737 47	3.049 87	84
85	.891 86	464 61	194 36	·850 33	108 14	535 39	·8o5 64	149 67	85
86	781 13	'329 44	117 02	741 97	21887	670 56	·882 98	258 03	86
87	661 31	185 01	.030 81	624 41	.338 69	·814 99	·969 19	375 59	87
88	.231 39	'030 45	1.933 76	496 61	·468 61	969 55	2. 066 24	503 39	88
89	390 56	2.864 93	825 14	357 78	.609 44	3.135 07	174 86	642 22	89
90	237 89	.687 46	705 37	206 99	762 11	'312 54	294 63	.793 01	90
91	071 79	496 90	569 71	042 65	928 21	503 10	'430 29	957 35	91
92	1.801 03	292 25	422 64	1.864 45	2·108 07	707 75		2.135 22	92
93	695 53	'071 98	'254 41	669 57	304 47	928 02	745 59	'330 43	93
94	483 32	1.835 18	074 65	458 83	516 68	2.164 82	925 35	'541 17	94
95	250 75	.579 66	0.868 14	227 55	749 25	420 34	1.131 86	772 45	95
96	0.000 80	379 81	ذ د ا	0.977 97	I'000 II	695 19	.350 02	ī '022 03	96
97	723 21	007 62	396 22	702 33	276 79	'992 38	.603 78	297 67	97
98	426 18	0.689 34	114 43	406 32	.573 82	1.310 66	885 57	593 68	98
99	114 43	346 80	1.830 70	'095 94	885 57	653 20	0.169 30	904 06	99
100	ī·772 7I	1.964 17	1	1	0.227 29	0.035 83	·481 05	0.244 13	100
101	394 01	516 27	207 20	379 67	605 99	'483 73	792 80	.620 33	101
102			2.895 44		1.003 83	1.003 83	1.104 26	1.104 26	102
			1 /5 17						_

$$N_x = D_x + D_{x+1} + \dots$$

 $S_x = N_x + N_{x+1} + \dots$

OM

VALUES OF a_x , A_x , P_x , and of \overline{a}_x , \overline{A}_x , \overline{P}_x

 $2^{rac{1}{2}}_{
m cent}$

				_		_	1
\boldsymbol{x}	a_x	\mathbf{A}_{x}	\mathbf{P}_{x}	\overline{a}_x	$\overline{\mathbf{A}}_{m{x}}$	$\overline{\mathrm{P}}_{m{x}}$	x
							
			00				
10	27.354	30 845	.01 088	27.852	*31 226	*01 121	10
11	27°133 26'906	31 383	'01 116 '01 144	27.631	31 772	01 150	11 12
12 13	26.675	31 937	01 144	27'404	32 332	'01 180 '01 211	13
13	26.437	*32·502 *33 080	01 1/4	27°173 26°935	'32 903 '33 490	01 211	14
		ł	_				
15	26'194	33 673	'01 238	26.693	'34 090	OI 277	15
16	25'947	34 278	'01 272	26.445	'34 700	01 312	16 17
17	25.692	34 896	'01 307	26.190	35 330	°01 349	18
18 19	25'434 25'170	'35 526 '36 170	'01 344 '01 382	25'932 25'668	'35 967 '36 619	01 307	19
18		i	_				
20	24.901	'36 826	OI 422	25.399	37 283	°01 468	20
21	24'627	'37 496	°01 463	25.125	37 960	01 511	21
22	24.348	'38 174 '38 866	.01 206	24.846	·38 649	°01 556	22 23
23	24.065	·38 866 ·39 569	01 551	24.222	'39 348 '40 059	·01 650	23 24
24	23.777	i .	·01 597	24.575		_	
25	23.484	·40 280	·01 645	23.982	40 782	'01 701	25
26	23'188	'41 003	01 695	23.686	41 513	°01 753	26
27	22.888	41 737	°01 747 °01 801	23.386	42 254	01 807	27 28
28	22.283	42 481	·o1 858	23.080	'43 009	.01 863	29
29	22.275	'43 232	1	22.772	'43 770	·01 922	
30	51.065	'43 995	.01 916	22.459	'44 543	·01 983	30
81	21.646	.44 766	.01 977	22'143	45 323	02 047	31
32	21.325	45 547	02 040	21.822	'46 116	02 113	32
83	21,001	'46 338	02 106	21'498	.46 916	02 182	33 34
84	20.673	'47 139	·02 175	21.140	47 726	·02 254	
35	20:340	'47 950	'02 247	20.837	48 548	·02 330	35
36	20.004	.48 770	02 322	20.201	49 378	02 409	36
87	19.663	'49 602	'02 400	20.160	50 220	02 491	37
38	19:319	50 443	02 483	19.816	.21 069	°02 577 °02 668	38 39
39	18. 96 9	·51 296	·02 569	19.466	·51 933		36
40	18.612	·52 159	· 02 659	19,115	.52 807	.02 763	40
41	18.257	.23 035	'02 754	18.754	.23 691	·02 863	41
42	17.894	.53 918	02 854	18.391	54 588	°02 968	42
43	17.526	.54 813	02 959	18.023	55 497	.03 040	43 44
44	17.155	'55 719	·03 0 69	17.652	.26 413	·03 196	44
45	16.480	.26 636	.03 182	17.277	·57 339	'03 319	45
46	16.399	.57 563	·03 308	16.896	.58 279	°03 449	46
47	16.016	.58 498	·03 43ô	16.213	59 225	.03 587	47
48	15.628	.59 442 .60 206	°03 575	16.122	.60 183	°03 732 °03 886	48 49
49	15.538	·60 396	.03 720	15.735	61 146		
50	14.844	61 356	·03 873	15.341	62 119	. 04 049	50
51	14*447	62 323	'04 035	14.944	63 099	04 222	51
52	14.049	63 297	04 206	14.246	64 082	'04 405	52
53	13.648	64 275	.04 388	14'144	65 075	°04 601	53 54
54	13.542	65 254	·04 581	13.741	•66 070	.04 808	54
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VALUES OF a_x , A_x , P_x , and of \overline{a}_x , \overline{A}_x , \overline{P}_x

 $2^{\frac{1}{2}}$ PER DENT.

\boldsymbol{x}	a_x	\mathbf{A}_{x}	\mathbf{P}_{x}	\overline{a}_x	$\overline{\mathbf{A}}_{m{x}}$	$\overline{\mathrm{P}}_{x}$	x
		.66					
55	12.842	66 240	·04 786	13.338	.67 065	05 028	55
56	12.438	67 226	·05 003	12.934	·68 o63	05 262	56
57	12.033	68 212	·05 234	12.229	·69 o63	.02 213	57
58	11.629	·69 197	·05 479	12.122	·70 o6o	·05 778	58
59	11.556	.70 179	'05 740	11.722	71 055	·06 o62	59
60	10.825	.71 159	.06 018	T T'00 T		.06 364	60
61	10.422			11'321	72 045		
		72 134	'06 313	10.050	73 036	.06 688	61
62	10.028	73 100	06 628	10.23	'74 016	·07 034	62
63	9.635	74 061	·06 964	10,130	·74 986	'07 402	63
64	9.242	75 012	'07 322	9'739	75 951	.07 798	64
65	8.859	[.] 75 954	·07 704	9.353	.76 904	.08 222	65
66	8.478	76 881	'08 112	8.972	77 845	.08 676	66
67	8.103	77 798	08 547	8.597	77 845	.00 163	67
68		78 699		8.597			68
69	7.733		09 012	8.227	'79 686	'09 686	69
	7:370	'79 5 ⁸ 5	.09 208	7.863	[.] 80 584	10 248	
70	7.014	·8o 453	10 039	7.202	·81 464	10 853	70
71	6.665	·81 306	10 607	7.157	.82 327	11 502	71
72	6.324	.82 137	11 215	6.816	.83 170	12 202	72
73	5.991	82 949	11 865	6.482	83 993	12 957	78
74	5.667	·83 738	12 560	6.128	·84 795	13 771	74
	-		_			1 .	
75	5'352	·84 508	.13 302	5.842	·85 575	14 649	75
76	5.042	·85 255	14 103	5.23 5	·86 333	15 598	76
77	4.749	.85 979	14 956	5.538	·87 o67	16 623	77
78	4.462	·86 678	15 869	4'950	·87 77.7	17 733	78
79	4.182	.87 353	16 847	4.672	·88 463	18 934	79
80	3.918	·88 oo4	17 892	4'404	·89 124	'20 235	80
81	3.665	·88 63o	19 012	4'147	189 760	20 235	81
82	3'416	·89 230		3.899			82
83	3.180		20 208		90 371	23 176	
84		.89 807	21 486	3.662	90 957	24 836	83
04	2.954	·90 355	.22 851	3.435	.91 218	.26 641	84
85	2.739	·90 88o	'24 306	3.518	92 053	.58 601	85
86	2.234	91 378	25 854	3.015	92 562	.30 728	86
87	2'340	91 854	'27 504	2.816	93 047	33 046	87
88	2.122	92 304	29 252	2.630	93 507	35 559	88
89	1.981	92 730	'31 106	2.453	93 943	38 297	89
90	1.816	l .	1	2.582		1	90
91	1.99.1	'93 132	·33 077	2 205	94 357	41 293	91
92		.93 510	35 136	2'128	94 745	44 521	
	1.214	93 869	37 342	1.978	95 117	·48 o95	92
98	1.379	.94 198	39 590	1.840	95 456	.51 876	98
94	1.548	'94 5 ¹ 7	·42 o39	1.406	·95 788	.26 124	94
95	1,133	.94 798	44 452	1.286	·96 o83	.60 574	95
96	1.018	95 078	'47 115	1.467	96 376	65 674	96
97	925	95 306	49 512	1.370	96 617	70 523	97
98	.833	95 530	52 117	1.543	96 857	·76 085	98
99	.708	95 832	56 123	1'142	97 180	.85 081	99
100	· ·	96 197	I •			_	
101	554		61 901	'983	97 573	99 280	100
102	'325	'96 752	73 013	'748	'98 154	1,31 310	101
102	.000	.97 561	.97 561	·415	98 975	2.38 361	102
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logarithms of a_x , A_x , P_x , and of \overline{a}_x , \overline{A}_x , \overline{P}_x

 $2^{\frac{1}{2}}$ PER CENT.

x	$\log a_x$	$\log \mathrm{A}_x$	$\log P_x$	$\log ar{a}_x$	$\log \overline{\mathrm{A}}_x$	$\log \overline{\mathrm{P}}_x$	x
10	1.452 61	ī·489 18	<u>2</u> .036 57	1.444 86	ī·494 52	2.049 64	10
11	'449 21	'496 70	'047 49	'441 40	502 04	.060 66	11
12	'445 70	·504 29	.028 20	·437 81	.209 63	.071 81	12
13	'442 08	.211 91	069 83	434 14	517 24	.083 11	13
14	·43 ⁸ 34	·519 57	·081 23	'430 32	524 92	·094 61	14
15	·434 48	.527 28	·092 80	·426 38	.532 63	106 26	15
16	'430 50	.23 5 02	104 52	422 34	.240 33	.118 00	16
17	'426 39	542 77	.116 38	. 418 14	·548 14	.130 01	17
18	422 16	·55° 55	128 39	. 413 84	.222 90	142 08	18
19	·417 80	·558 35	140 55	·409 39	.263 71	154 30	19
20	413 31	·566 16 .	152 85	·404 82	.271 21	·166 70	20
21	'408 70	.573 98	165 28	' 400 I I	. 579 33	179 21	21
22	403 95	.281 77	177 82	'395 26	'587 14	'19187	22
23	·399 07	.589 57	190 50	·390 28	594 92	'204 64	23
24	394 06	597 35	203 29	.385 16	.602 70	217 54	24
25	.388 89	605 09	.516 50	·379 89	610 47	.230 58	25
26	383 60	612 82	229 22	374 49	618 18	·243 68	26
27	378 17	620 52	'242 35	368 96	625 87	256 91	27
28	372 61	628 19	255 58	363 24	633 56	270 33	28
29	366 88	635 81	268 93	357 40	641 18	283 78	29
	_		l				
30	'3 61 01	643 40	'282 39	351 39	648 78	297 39	30
31	'354 99	650 95	295 96	345 24	656 32	.311 08	81
32	·348 79	658 46	309 67	·338 89	. 663 85	'324 96	32
33	`3 4 2 44	665 94	323 50	'332 40	671 32	.338 91	33
34	'335 9 ²	673 38	'337 46	325 72	.678 76	'353 o3	34
35	'329 20	·68 o 79	.321 29	'318 84	·686 17	'367 34	35
36	'322 30	·688 15	365 85	'311 78	693 53	'381 76	36
. 37	'315 21	695 50	. 380 29	'304 49	·700 88	·396 39	87
38	.307 89	.702 80	'394 91	'297 02	.708 16	411 15	38
39	.300 36	.710 08	'409 72	289 28	715 44	426 17	39
40	'292 59	717 33	424 74	·281 31	.722 69	441 40	40
41	284 58	724 54	439 96	·273 og	729 90	·456 81	41
42	276 32	731 73	'455 41	264 61	.737 10	472 49	42
43	267 79	.738 88	471 09	.255 83	744 27	488 44	43
44	258 99	.746 00	48701	·246 79	751 38	.504 58	44
45	'249 92	753 09	.503 17	·237 47	758 45	.520 98	45
46	240 54	750 14	519 60	227 78	765 51	537 73	46
47	230 85	767 14	536 29	217 83	.772 51	554 68	47
48	230 85	774 09	553 24	207 50	779 47	571 98	48
49	210 52	781 01	570 49	196 87	786 37	.589 50	49
50	199 86	.787 86	·588 oo	185 85	793 22	607 37	50
51	188 85	794 65	.605 80	174 47	·800 02	625 56	51
52	177 49	·801 38	623 89	162 74	806 74	644 00	52
53	165 77	808 04	642 27	150 57	813 41	662 84	53
54	153 66	·814 61	660 95	138 02	.820 00	.681 98	54
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LOGARITHMS OF a_x , A_x , P_x , and of \overline{a}_x , \overline{A}_x , \overline{P}_x

 $2^{rac{1}{2}}$ per

\boldsymbol{x}	$\log a_x$	$\log A_x$	$\log P_x$	$\log \bar{a}_x$	$\log \overline{\mathrm{A}}_x$	$\log \overline{\mathrm{P}}_x$	\boldsymbol{x}
55 56	1'141 19	ī·821 12 ·827 54	2.679 93 .699 22	1.15 00	ī·826 50 ·832 91	2.701 40 .721 18	55 56
57	120 32	·833 86	71881	097 92	839 25	721 10	57
58	.101 38	.840 09	.738 71	083 68	.845 47	761 79	58
59	·087 29	·846 21	.758 92	·069 00	851 59	.782 59	59
60	·072 80	.852 23	·779 43	·053 88	·857 6o	.803 72	60
61	.057 87	·858 14	·800 27	.038 22	863 54	.825 31	61
62	'042 51	.863 92	.821 41	022 14	.869 33	847 18	62
63	026 72	869 59	*842 87	'005 61	.874 98	.869 37	63 64
64	·010 49	.875 13	·864 64	0.988 23	·88o 53	.892 00	l
65	0.993 83	·88o 55	.886 72	.970 97	1885 95	914 98	65 66
66 67	976 72	885 82	'931 80	'952 90	'891 23 '896 38	'938 33 '962 05	67
68	'959 17 '941 17	·890 97 ·895 97	954 80	'934 33 '915 22	901 38	986 16	68
69	941 17	900 83	'978 11	·895 5 9	901 30	1.010 64	69
70	903 83	905 54	1.001 11	·875 44	910 97	·°35 55	70
71	·884 51	903 34	025 61	·854 76	915 54	.060 77	71
72	·864 75	914 54	· 049 79	833 52	91997	086 43	72
73	·844 54	91881	'074 27	·811 74	924 24	112 50	73
74	.823 92	922 92	. 099 00	·789 41	928 37	138 97	74
75	·802 88	926 90	124 02	.766 55	932 35	165 81	75
76	.781 42	.930 72	149 30	743 10	.936 18	193 07	76
77	759 58	'934 39	174 81	.419 13	939 85	220 71	77
78	737 35	937 91	200 56	694 60	943 38	248 78	78 79
79	714 76	'941 28	*226 52	.669 21	·946 76	277 24	1
80	691 83	944 50	252 67	643 90	949 99	306 10	80 81
81 82	668 55	'947 58	279 03	61771	'953 08 '956 03	'335 38 '365 04	82
83	'644 99 '621 16	'950 51 '953 31	'305 52 '332 15	.291 00 .263 75	958 84	305 04	83
84	.597 05	955 95	358 90	535 95	961 51	425 55	84
85	572 75	958 47	385 72	507 65	964 04	456 38	85
86	'548 31	950 47	412 53	478 90	966 43	487 53	86
87	523 70	963 10	439 40	449 59	968 70	519 12	87
88	499 06	965 22	·466 16	419 89	970 84	.250 92	88
89	·474 37	967 22	492 85	· 3 89 70	972 86	.283 16	89
90	449 57	.969 10	.219 53	·358 91	974 77	615 88	90
91	'425 11	.970 86	. 545 75	'327 99	976 56	648 56	91
92	'400 32	972 52	.572 20	296 16	978 26	'682 10	92
93 94	376 45	974 04	597 59	264 84	'979 80 '981 31	'714 97 '749 38	93 94
	351 86	975 51	62365	'231 93			1
95 96	328 91	1976 80	647 89	.166 28	'982 65 '983 97	'782 29 '817 39	95 96
97	'304 92 '284 41	'978 o8 '979 12	·673 16 ·694 71	136 72	985 05	848 33	97
98	263 16	979 12	716 98	130 /2	986 13	.881 30	98
99	232 37	'981 51	749 14	·057 74	987 58	92983	99
100	191 46	983 16	791 70	1'992 47	.989 33	·996 86	100
101	122 26	985 66	.863 40	·873 61	991 91	0.118 30	101
102	,000 00	989 27	989 27	618 29	995 53	377 23	102

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VALUES OF TEMPORARY ANNUITIES OF 1

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tion.	27:354			13	•	15	16	17	18	19	Dura-
	27.354	27.133	26.906	26.675	26.437	26.194	25.947	25.692	25.434	25.170	tion.
	.000	.000	.000	.000	.000	.000	,000	,000	.000	.000	0
1	972	972	.972	972	972	.972	.972	972	972	'972	1
2	1,918	1.918	1'917	1.012	1'917	1.917	1.014	1'917	1'916	1,016	2
3	2.837	2.837	2.836	2.836	2.836	2.835	2.835	2.835	2.834	2.833	8
4	3.430	3'730	3.430	3.729	3.729	3.728	3.727	3.726	3.726	3.725	4
5	4.299	4.299	4.298	4'597	4.296	4.292	4.294	4.293	4.292	4.290	5
6	5.443	5.443	5.442	5.441	5'440	5.438	5.437	5'435	5.433	5'431	6
7	6.364	6.563	6.565	6.561	6.529	6.527	6.525	6.525	6.520	6.247	7
8	7.062	7.061	7:059	7.057	7.052	7.052	7.020	7.046	7.043	7:039	8
9	7.838	7.836	7.833	7.831	7.828	7.825	7.821	7.817	7.813	7.808	9
10	8.291	8.289	8.2 86	8.283	8.579	8.575	8.571	8.566	8.260	8.554	10
1	9.323	9,350	9.317	9'313	9.30 9	9.304	9.298	9.292	9.285	9.277	1
	10'034	10,031	10.024	10.033	10.014	10,011	10.004	9'997	9.988	9'979	2
3	10.722	10.451	10.419	10.411	10.4	10.692	10.689	10.680	10.670	10.659	. 3
4	11.394	11.391	11.382	11.379	11.371	11.363	11.323	11.343	11.332	11.319	4
15	12.048	12'042	12'035	12.027	12.018	12.000	11.998	11.086	11'973	11.958	15
6	12.681	12.674	12.666	12.657	12.646	12.635	12.623	12.609	12.294	12.27	6
7	13.295	13.287	13.277	13.267	13.255	13'242	13.228	13.515	13.192	13.177	7
8	13.891	13.882	13.871	13.859	13.846	13.831	13.815	13.797	13.778	13.757	8
Θ	14'470	14'459	14'447	14'433	14.418	14'402	14.383	14.364	14.342	14.319	9
20	15.031	15.019	15.002	14'990	14.973	14'954	14'934	14'912	14.888	14.862	20
	15.222	15.261	15.246	15.23		15.489	15.467	15'442	15.416	15.388	1
	16.103	16.084	16.070	16.021	16.030		15.983	15.956	15'927	15.896	2
	16.614	16.294	16.578	16.222	16.234	16.209	16.483	16.452	16.421	16.384	3
4	17.100	17.000	17.069	17.046	17.021	16.994	16.964	16.935	16.898	16.861	4
25	17.590	17.269	17.545	17.520	17'493	17.463		_	1		25
	18.024	18.031	18.006	17.979	17.949	17'916	17.431	17:396	17:358	17.318	6
	18.204	18.479	18.452	18.422	18.389	18.324	18.317	17 [.] 844 18 [.] 276	17.803	17.760	7
	18.940	18.013	18.883	18.851	18.812	18.777	18.737	18.693	18.646	18.296	8
	19.361	19.332	19,500	19.265	19.227	19.186	19.145	19.092	19.045	18.992	9
30	ا د					_					
	19.769	19'737	19.702	19.665	19.624	19.280	19.233	19.483	19'429	19'372	30
	•	20'128	20 . 001	20'051	20.007	19.960	19.910	19.856	19.799	19.738	1
3	20'543	20.206	20.828	20.423	20.377	20:327	20.273	20.219	20.122	20.090	2
4	21.566	20.871	21.148	20.783	20.733	20 [.] 679	20.622	20.262	20'497	20'427	8 4
		•		_	21.076		20.928	20.894	20.822	20.421	
	21.608	21.263	21.214	21'462	21.406	21'346	21.581	21,513	21,130	21.061	35
	21.938	21.890	21.839	21.783	21.723	21.660	21.201	21.219	21'441	21.328	6
8	22.257	22'206	22'151	22.092	22.029	21.961	21.889	21.812	21.729	21.642	7
	22.263	22.209	22.451	22.389	22.321	22.220	22'174	22.092	22.002	21.012	8
	22.858	22.801	22.739	22.673	22.602	22.22	22.446	22.360	22.568	22.140	9
	23.145	23.081	23.016			22.792		22.616			40
	23'414		23.585	23.508		23.045	22.955	22.859	22.757	22.649	1
	23.676		23.236			23.287				22.869	2
	23.927		23.779			23.217			23.198	23.078	3
	24.168	24.093	24.015	23.926	23.834	23.736	23.631		23.401	23.572	4
	24.398		24.534		24.042	23.944	23.834		23.292	23.460	45
	24.618				24.549	24'141			23.772	23.633	6
	24.828		24.647			24.322		24.077	23.940		7
	25.028				24.621		24.376		24.098		8
9	25.218	25.132	25.019	24.910	24.792	24.668	24.232	24.394	24.545	24.086	9
	10	II	12	13	14	15	16	17	18	19	

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VALUES OF TEMPORARY ANNUITIES OF 1

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1 - 1	000 000 972 1.91 1.91 2.83 3.72 3.88 4.58 5.42 4.3 6.22 7.79 3.60 9.95 3.47 3.5 13.71	000 072 1915 915 1915 832 2.831 722 3.721 586 4.584 425 5.422 240 6.235 030 7.024 796 7.789 539 9.250 958 9.947 635 10.621 291 11.275 926 11.908 12.520 13.5112 711 13.685 267 14.239 805 14.774 325 15.291 827 15.790 312 16.271 780 16.735 231 17.183 665 17.614	13.088 13.658 14.209 14.741 15.254 15.750 16.228 16.689	28·777 '000 '971 1'914 2'829 3'717 4'579 5'415 6'226 7'012 7'774 8'513 9'228 9'921 10'591 11'240 11'868 12'475 13'629 14'177 14'706 15'216 15'708 16'182 16'639 17'079	12.451 13.035 13.599 14.143 14.669 15.175 15.664 16.134	28·188 '000 '971 1'913 2·827 3'714 4'574 5'407 6'216 6'999 7'757 8'492 9'203 9'892 10'557 11'201 11'824 12'425 13'006 13'567 14'108 14'630 15'133 15'618 16'084 16'532		12.371 12.945 13.499 14.033 14.547 15.042 15.518 15.976	22·275 '000 '970 1'911 2·823 3·707 4·564 5·394 6·197 6·975 7·728 8·457 9·842 10·500 11·1749 12·341 12·912 13·462 13·992 14·502 14·502 14·502 14·502 14·502 14·502 14·502 14·502	Duration. O 1 2 3 4 5 6 7 8 9 10 1 2 3 4 15 6 7 8 9 20 1 2 3
1	72 97 1:91 2:83 3:72 3:88 4:58 4:43 6:24 7:03 7:79 8:53 9:26 9:95 14:29 12:54 13:71 13:	972	971 1'914 2'830 3'719 4'582 5'419 6'231 7'019 7'782 8'522 9'239 9'934 10'607 11'258 11'889 12'498 13'088 14'209 14'741 15'254 15'750 16'228 16'689	.971 1.914 2.829 3.717 4.579 5.415 6.226 7.012 7.774 8.513 9.228 9.921 10.591 11.240 11.868 12.475 13.062 14.177 14.706 15.216 15.708 16.182 16.639	.971 1.913 2.828 3.716 4.577 5.412 7.006 7.766 8.503 9.216 9.906 10.575 11.221 11.846 12.451 13.035 14.143 14.669 15.175 15.664 16.134 16.587	.971 1.913 2.827 3.714 4.574 5.407 6.216 6.999 7.757 8.492 9.203 9.892 10.557 11.201 11.824 12.425 13.006 13.567 14.108 14.630 15.133 15.618	970 1'912 2'826 3'712 4'571 5'403 6'210 6'991 7'748 8'481 9'190 9'876 10'539 11'180 11'800 12'398 12'976 13'534 14'071 14'589 15'088 15'569	970 1'912 2'824 3'709 4'567 5'399 6'204 6'984 7'739 8'469 9'176 9'860 10'520 11'159 11'776 12'371 12'945 13'499 14'033 14'547 15'042 15'518	970 1'911 2'823 3'707 4'564 5'394 6'197 6'975 7'728 8'457 9'842 10'500 11'136 .11'749 12'341 12'912 13'462 14'502 14'502 14'503 15'464	1 2 3 4 5 6 7 8 9 10 1 2 3 4 15 6 7 8 9 20 10 10 10 10 10 10 10 10 10 10 10 10 10
2 1.9 3 2.8 4 3.7 5 4.5 6 5.4 7 6.2 8 7.0 9 7.8 10 8.5 1 1.9 6 12.5 7 13.1 8 13.7 9 14.2 20 14.8 1 15.3 2 15.8 3 16.3 4 17.7 7 18.1 8 18.5 9 18.9 80 19.3 1 19.6 2 20.0 3 20.3 4 20.6 8 21.2 8 21.5 8 21.5 8 21.5 8 21.5 8 22.5 8 22.5 8 23.5 8 24.5 8 25.5 8 26.5 8 26.	116 1.91 2.83 2.23 3.72 2.88 4.58 2.8 5.42 2.8 6.24 3.7 7.93 2.69 9.95 2.69 9.95 2.69 9.95 2.69 12.54 2.7 13.13 2.7 12.54 2.7 13.13 2.7 12.54 2.7 13.13 2.7	915 1'915 832 2'831 722 3'721 586 4'584 425 5'422 240 6'235 030 7'024 796 7'789 539 8'531 260 9'250 958 9'947 635 10'621 291 11'275 926 11'908 540 12'520 135 13'112 711 13'685 267 14'239 805 14'774 325 15'291 827 15'790 312 16'271 780 16'735 231 17'183 665 17'614	1'914 2'830 3'719 4'582 5'419 6'231 7'019 7'782 8'522 9'239 9'934 10'607 11'258 11'889 12'498 13'088 14'209 14'741 15'254 15'750 16'228 16'689 17'132	1.914 2.829 3.717 4.579 5.415 6.226 7.012 7.774 8.513 9.228 9.921 10.591 11.240 11.868 12.475 13.6629 14.177 14.706 15.216 15.708 16.182 16.639	1.913 2.828 3.716 4.577 5.412 7.006 7.766 8.503 9.216 9.906 10.575 11.221 11.846 12.451 13.035 14.143 14.669 15.175 15.664 16.134 16.587	1.913 2.827 3.714 4.574 5.407 6.216 6.999 7.757 8.492 9.203 9.892 10.557 11.201 11.824 12.425 13.006 13.567 14.108 14.630 15.133 15.618	1.912 2.826 3.712 4.571 5.403 6.210 6.991 7.748 8.481 9.190 9.876 10.539 11.180 11.800 12.398 12.976 13.534 14.071 14.589 15.088 15.569	1.912 2.824 3.709 4.567 5.399 6.204 6.984 7.739 8.469 9.176 9.860 10.520 11.159 11.776 12.371 12.945 13.499 14.033 14.547 15.042 15.518	1.911 2.823 3.707 4.564 5.394 6.197 6.975 7.728 8.457 9.161 9.842 10.500 11.136 11.749 12.341 12.912 13.462 14.502 14.502 14.503 15.464	2 3 4 5 6 7 8 9 10 1 2 3 4 15 6 7 8 9 20 1 2
8 2.8 4 3.7 5 4.5 6 5.4 7 6.2 8 7.0 9 7.8 10 8.5 1 9.2 2 9.9 3 10.6 4 11.3 15 11.9 6 12.5 7 13.1 8 13.7 9 14.2 20 14.8 1 15.3 2 15.8 3 16.8 2 17.7 7 18.1 8 18.5 9 18.5 9 19.3 1 19.6 2 20.0 3 20.3 4 20.6 8 21.2 8 21.5 8 21.5	2.83 2.83 3.72 3.88 4.58 5.42 6.24 7.03 7.79 8.53 9.26 9.95 10.63 11.29 12.54 13.13 13.71 13.71 13.71 14.26 13.4 14.86 15.32 16.31	832 2.831 722 3.721 586 4.584 425 5.422 240 6.235 030 7.024 796 7.789 539 8.531 260 9.250 958 9.947 635 10.621 291 11.275 926 11.908 540 12.520 135 13.112 711 13.685 267 14.239 805 14.774 325 15.291 827 15.790 312 16.271 780 16.735 231 17.183 665 17.614	2·830 3·719 4·582 5·419 6·231 7·019 7·782 8·522 9·239 9·934 10·607 11·258 11·889 12·498 13·658 14·209 14·741 15·254 15·750 16·228 16·689	2·829 3·7·7 4·579 5·4·15 6·226 7·0·12 7·774 8·5·13 9·228 9·921 10·591 11·240 11·868 12·475 13·629 14·177 14·706 15·216 15·708 16·182 16·639	2·828 3·716 4·577 5·412 7·006 7·766 8·503 9·216 9·906 10·575 11·221 11·846 12·451 13·035 14·143 14·669 15·175 15·664 16·134 16·587	2·827 3·7·14 4·574 5·407 6·216 6·999 7·757 8·492 9·203 9·892 10·557 11·201 11·824 12·425 13·006 13·567 14·108 14·630 15·133 15·618 16·084	2·826 3·712 4·571 5·403 6·210 6·991 7·748 8·481 9·190 9·876 10·539 11·180 11·800 12·398 12·976 13·534 14·071 14·589 15·088 15·569	2·824 3·709 4·567 5·399 6·204 6·984 7·739 8·469 9·176 9·860 10·520 11·159 11·776 12·371 12·945 13·499 14·033 14·547 15·042 15·518	2·823 3·707 4·564 5·394 6·197 6·975 7·728 8·457 9·842 10·500 11·136 .11·749 12·341 12·912 13·462 14·502 14·502 14·593 15·464	3 4 5 6 7 8 9 10 1 2 3 4 15 6 7 8 9 20 1 2
4 3.7. 5 4.5. 6 5.4. 7 6 7.8 7 7.8 10 8.5. 1 9.9 3 10.6 4 11.3 15 11.9 6 12.5 7 13.1 8 13.7 9 14.2 20 14.8 1 15.8 3 16.8 21 17.7 7 18.1 8 18.5 9 18.9 80 19.3 1 19.6 2 20.0 3 20.3 4 20.6 85 20.9 6 21.2 7 21.5 8 21.8	23 3.72 288 4.58 28 5.42 28 6.24 36.24 7.03 27.79 8.53 26.69 9.95 26.69 9.95 26.69 10.63 27.69 2	722 3.721 586 4.584 425 5.422 240 6.235 030 7.024 796 7.789 539 8.531 260 9.250 958 9.947 635 10.621 291 11.275 926 11.908 540 12.520 135 13.112 711 13.685 267 14.239 805 14.774 325 15.291 827 15.790 312 16.271 780 16.735 231 17.183 665 17.614	3.719 4.582 5.419 6.231 7.019 7.782 8.522 9.239 9.934 10.607 11.258 11.889 12.498 13.658 14.209 14.741 15.254 15.750 16.228 16.689	3.717 4.579 5.415 6.226 7.012 7.774 8.513 9.228 9.921 10.591 11.240 11.868 12.475 13.062 14.177 14.706 15.216 15.708 16.182 16.639	3.716 4.577 5.412 6.221 7.006 7.766 8.503 9.216 9.906 10.575 11.221 11.846 12.451 13.035 14.143 14.669 15.175 15.664 16.134 16.587	3.714 4.574 5.407 6.216 6.999 7.757 8.492 9.203 9.892 10.557 11.201 11.824 12.425 13.006 13.567 14.108 14.630 15.133 15.618	3.712 4.571 5.403 6.210 6.991 7.748 8.481 9.190 9.876 10.539 11.180 11.800 12.398 12.976 13.534 14.071 14.589 15.088 15.569	3.709 4.567 5.399 6.204 6.984 7.739 8.469 9.176 9.860 10.520 11.159 11.776 12.371 12.945 13.499 14.033 14.547 15.042 15.518	3.707 4.564 5.394 6.197 6.975 7.728 8.457 9.161 9.842 10.500 11.136 11.749 12.341 12.912 13.462 14.502 14.502 14.593 15.464	5 6 7 8 9 10 1 2 3 4 15 6 7 8 9 20 1 2
5 4.56 6 5.47 7 6.27 8 7.8 7 7.8 10 8.55 1 9.22 2 9.3 10.6 4 11.3 15 11.9 6 12.5 7 13.7 9 14.2 20 14.8 2 15.8 3 16.8 2 17.7 7 18.1 8 18.5 9 18.9 30 19.6 2 20.0 3 20.6 35 20.9 6 21.2 7 21.5 8 21.8	88 4.58 28 5.42 8.28 6.24 3.4 7.03 8.53 6.02 7.79 8.53 6.09 9.95 6.48 10.63 6.05 11.29 6.42 11.92 6.57 13.13 6.54 14.26 6.53 14.26 6.54 14.26 6.55 15.32 6.56 16.31 6.57 16.78 6.76 17.23	586 4.584 425 5.422 240 6.235 030 7.024 796 7.789 539 8.531 260 9.250 958 9.947 635 10.621 291 11.275 926 11.908 540 12.520 135 13.112 711 13.685 267 14.239 805 14.774 325 15.291 827 15.790 312 16.271 780 16.735 231 17.183 665 17.614	4'582 5'419 6'231 7'019 7'782 8'522 9'239 9'934 10'607 11'258 11'889 12'498 13'658 14'209 14'741 15'254 15'750 16'228 16'689	4.579 5.415 6.226 7.012 7.774 8.513 9.228 9.921 10.591 11.240 11.868 12.475 13.062 14.177 14.706 15.216 15.708 16.182 16.639	4'577 5'412 6'221 7'006 7'766 8'503 9'216 9'906 10'575 11'221 11'846 12'451 13'035 13'599 14'143 14'669 15'175 15'664 16'134 16'587	4.574 5.407 6.216 6.999 7.757 8.492 9.203 9.892 10.557 11.201 11.824 12.425 13.006 13.567 14.108 14.630 15.133 15.618	4.571 5.403 6.210 6.991 7.748 8.481 9.190 9.876 10.539 11.180 12.398 12.976 13.534 14.071 14.589 15.088 15.569	4.567 5.399 6.204 6.984 7.739 8.469 9.176 9.860 10.520 11.159 11.776 12.371 12.945 13.499 14.033 14.547 15.042 15.518	4.564 5.394 6.197 6.975 7.728 8.457 9.161 9.842 10.500 11.136 11.749 12.341 12.912 13.462 14.502 14.502 14.503 15.464	5 6 7 8 9 10 1 2 3 4 15 6 7 8 9 20 1 20 1 20 1 20 1 20 1 20 1 20 1 20
6 5.4 7 6.2 8 7.0 9 7.8 10 8.5 1 9.2 2 9.9 3 10.6 4 11.3 15 11.9 6 12.5 7 13.1 8 13.7 9 14.2 20 14.8 1 15.3 2 15.8 3 16.3 4 16.8 2 17.7 7 18.1 8 18.5 9 18.9 80 19.3 1 19.6 2 20.0 3 20.3 4 20.6 8 21.2 7 21.5 8 21.8	28 5.42 43 6.24 7.03 7.79 8.53 9.26 9.95 10.63 11.29 12.54 11.92 12.54 13.71 13.71 13.71 14.26 14.26 14.86 15.32 16.31	425 5.422 240 6.235 030 7.024 796 7.789 539 8.531 260 9.250 958 9.947 635 10.621 291 11.275 926 11.908 540 12.520 135 13.112 711 13.685 267 14.239 805 14.774 325 15.291 827 15.790 312 16.271 780 16.735 231 17.183 665 17.614	5'419 6'231 7'019 7'782 8'522 9'239 9'934 10'607 11'258 11'889 12'498 13'088 14'209 14'741 15'254 15'750 16'228 16'689	5.415 6.226 7.012 7.774 8.513 9.228 9.921 10.591 11.240 11.868 12.475 13.662 14.177 14.706 15.216 15.708 16.182 16.639	5.412 6.221 7.006 7.766 8.503 9.216 9.906 10.575 11.221 11.846 12.451 13.035 14.143 14.669 15.175 15.664 16.134 16.587	5.407 6.216 6.999 7.757 8.492 9.203 9.892 10.557 11.201 11.824 12.425 13.006 13.567 14.108 14.630 15.133 15.618	5'403 6'210 6'991 7'748 8'481 9'190 9'876 10'539 11'180 12'398 12'976 13'534 14'071 14'589 15'088 15'569	5'399 6'204 6'984 7'739 8'469 9'176 9'860 10'520 11'159 11'776 12'371 12'945 13'499 14'033 14'547 15'042 15'518	5'394 6'197 6'975 7'728 8'457 9'161 9'842 10'500 11'136 .11'749 12'341 12'912 13'462 13'992 14'502 14'993 15'464	6 7 8 9 10 1 2 3 4 15 6 7 8 9 20 1 2
7 6.2. 8 7.0 9 7.8 10 8.5 1 9.2 2 9.9 3 10.6 4 11.3 15 11.9 6 12.5 7 13.1 8 13.7 9 14.2 20 14.8 1 15.3 2 15.8 3 16.3 4 16.8 25 17.2 6 17.7 7 18.1 8 18.5 9 18.9 80 19.3 1 19.6 2 20.0 3 20.3 4 20.6 85 20.9 6 21.2 7 21.5 8 21.8	43 6.24 7.03 7.79 8.53 9.26 9.95 10.63 10.63 11.29 12.54 13.71 13.71 13.71 14.26 14.26 15.32 16.31	240 6.235 030 7.024 776 7.789 539 8.531 260 9.250 958 9.947 635 10.621 291 11.275 926 11.908 540 12.520 135 13.112 711 13.685 267 14.239 805 14.774 325 15.291 827 15.790 312 16.271 780 16.735 231 17.183 665 17.614	6.231 7.019 7.782 8.522 9.239 9.934 10.607 11.258 11.889 12.498 13.658 14.209 14.741 15.254 15.750 16.228 16.689	6.226 7.012 7.774 8.513 9.228 9.921 10.591 11.240 11.868 12.475 13.062 13.629 14.177 14.706 15.216 15.708 16.182 16.639	6.221 7.006 7.766 8.503 9.216 9.906 10.575 11.221 11.846 12.451 13.035 14.143 14.669 15.175 15.664 16.134 16.587	6.216 6.999 7.757 8.492 9.203 9.892 10.557 11.201 11.824 12.425 13.006 13.567 14.108 14.630 15.133 15.618	6.210 6.991 7.748 8.481 9.190 9.876 10.539 11.180 12.398 12.976 13.534 14.071 14.589 15.088 15.569	6.204 6.984 7.739 8.469 9.176 9.860 10.520 11.159 11.776 12.371 12.945 13.499 14.033 14.547 15.042 15.518	6.197 6.975 7.728 8.457 9.161 9.842 10.500 11.136 .11.749 12.341 12.912 13.462 13.992 14.502 14.993 15.464	7 8 9 10 1 2 3 4 15 6 7 8 9 20 1 2
8 7.0 9 7.8 10 8.5 1 9.2 2 9.9 3 10.6 4 11.3 15 11.9 6 12.5 7 13.1 8 13.7 9 14.2 20 14.8 1 15.3 2 15.8 3 16.3 4 16.8 25 17.2 6 17.7 7 18.1 8 18.5 9 18.9 9 19.3 1 19.6 2 20.0 3 20.3 4 20.6 8 21.2 7 21.5 8 21.8	7.03 7.79 8.53 9.26 9.95 10.63 10.63 11.29 12.54 11.29 12.54 13.13 13.71 14.26 14.26 15.32 16.31	030 7.024 776 7.789 539 8.531 260 9.250 958 9.947 635 10.621 291 11.275 926 11.908 540 12.520 135 13.112 711 13.685 267 14.239 805 14.774 325 15.291 827 15.790 312 16.271 780 16.735 231 17.183 665 17.614	7.019 7.782 8.522 9.239 9.934 10.607 11.258 11.889 12.498 13.658 14.209 14.741 15.254 15.750 16.228 16.689	7.012 7.774 8.513 9.228 9.921 10.591 11.240 11.868 12.475 13.629 14.177 14.706 15.216 15.708 16.182 16.639	7.006 7.766 8.503 9.216 9.906 10.575 11.221 11.846 12.451 13.035 14.143 14.669 15.175 15.664 16.134 16.587	6.999 7.757 8.492 9.203 9.892 10.557 11.201 11.824 12.425 13.006 13.567 14.108 14.630 15.133 15.618	6.991 7.748 8.481 9.190 9.876 10.539 11.180 12.398 12.976 13.534 14.071 14.589 15.088 15.569	6.984 7.739 8.469 9.176 9.860 10.520 11.159 11.776 12.371 12.945 13.499 14.033 14.547 15.042 15.518	6.975 7.728 8.457 9.161 9.842 10.500 11.136 11.749 12.341 12.912 13.462 14.502 14.502 14.503 15.464	8 9 10 1 2 3 4 15 6 7 8 9 20 1 2
9 7.8 10 8.5 1 9.2 2 9.2 2 10.6 4 11.3 15 11.9 6 12.5 7 13.1 8 15.3 2 15.8 3 16.8 2 17.7 7 18.1 8 18.5 9 18.9 30 19.3 1 19.6 2 20.3 4 20.6 8 21.2 7 21.5 8 21.8	35 13.71 36 2 1.79 36 3 9.26 36 9.95 36 10.63 37 12.54 37 13.13 37 13.13 37 14.26 38 14.86 37 15.32 38 16.31 39 16.31 31 16.78 31 17.23	796 7.789 539 8.531 260 9.250 958 9.947 635 10.621 291 11.275 926 11.908 540 12.520 135 13.112 711 13.685 267 14.239 805 14.774 325 15.291 827 15.790 312 16.271 780 16.735 231 17.183 665 17.614	7.782 8.522 9.239 9.934 10.607 11.258 11.889 12.498 13.658 14.209 14.741 15.254 15.750 16.228 16.689	7.774 8.513 9.228 9.921 10.591 11.240 11.868 12.475 13.629 14.177 14.706 15.216 15.708 16.182 16.639	7.766 8.503 9.216 9.906 10.575 11.221 11.846 12.451 13.035 14.143 14.669 15.175 15.664 16.134 16.587	7.757 8.492 9.203 9.892 10.557 11.201 11.824 12.425 13.006 13.567 14.108 14.630 15.133 15.618	7'748 8'481 9'190 9'876 10'539 11'180 11'800 12'398 12'976 13'534 14'071 14'589 15'088 15'569	7.739 8.469 9.176 9.860 10.520 11.159 11.776 12.371 12.945 13.499 14.033 14.547 15.042 15.518	7.728 8.457 9.161 9.842 10.500 11.136 .11.749 12.341 12.912 13.462 14.502 14.502 14.503 15.464	9 10 1 2 3 4 15 6 7 8 9 20 1 2
10 8·5. 1 9·2. 2 9·9. 3 10·6 4 11·3. 15 11·9. 6 12·5. 7 13·1. 8 13·7. 9 14·2. 20 14·8 1 15·3. 2 15·8. 3 16·8 25 17·2. 6 17·7. 7 18·1. 8 18·5. 9 18·9. 30 19·3. 1 19·6. 2 20·0. 3 20·3. 4 20·6. 85 20·9. 6 21·2. 7 21·5. 8 21·8.	34 14.80 35 11.39 36 11.29 36 11.29 37 12.54 37 13.71 37 13.71 38 14.26 37 14.26 38 14.80 38 16.31 39 16.31 30 17.23	539 8·531 260 9·250 958 9·947 635 10·621 291 11·275 926 11·908 540 12·520 135 13·112 711 13·685 267 14·239 805 14·774 325 15·291 827 15·790 312 16·271 780 16·735 231 17·183 665 17·614	8·522 9·239 9·934 10·607 11·258 11·889 12·498 13·658 14·209 14·741 15·254 15·750 16·228 16·689 17·132	8·513 9·228 9·921 10·591 11·240 11·868 12·475 13·629 14·177 14·706 15·216 15·708 16·182 16·639	8.503 9.216 9.906 10.575 11.221 11.846 12.451 13.035 14.143 14.669 15.175 15.664 16.134 16.587	8'492 9'203 9'892 10'557 11'201 11'824 12'425 13'006 13'567 14'108 14'630 15'133 15'618	8.481 9.190 9.876 10.539 11.180 12.398 12.976 13.534 14.071 14.589 15.088 15.569	8'469 9'176 9'860 10'520 11'159 11'776 12'371 12'945 13'499 14'033 14'547 15'042 15'518	8'457 9'161 9'842 10'500 11'136 .11'749 12'341 12'912 13'462 14'502 14'502 14'993 15'464 15'917	10 1 2 3 4 15 6 7 8 9 20 1 2
1 9'2' 2 9'9 3 10'6 4 11'3 15 11'9 6 12'5 7 13'1 8 13'7 9 14'2 20 14'8 1 15'3 2 15'8 3 16'3 4 16'8 25 17'7 7 18'1 8 18'5 9 18'9 80 19'3 1 19'6 2 20'0 3 20'3 4 20'6 85 20'9 6 21'2 7 21'5 8 21'8	169 9.26 169 9.95 148 10.63 10.63 10.63 11.29 12.54 13.71 13.71 13.71 14.26 14.26 15.32 16.31 16.78 16.78 16.78 16.78 16.78 17.23	260 9.250 9.947 635 10.621 291 11.275 926 11.908 540 12.520 135 13.112 711 13.685 267 14.239 805 14.774 325 15.291 827 15.790 312 16.271 780 16.735 231 17.183 665 17.614	9'239 9'934 10'607 11'258 11'889 12'498 13'658 14'209 14'741 15'254 15'750 16'228 16'689	9°228 9°921 10°591 11°240 11°868 12°475 13°629 14°177 14°706 15°216 15°708 16°182 16°639	9'216 9'906 10'575 11'221 11'846 12'451 13'035 13'599 14'143 14'669 15'175 15'664 16'134 16'587	9'203 9'892 10'557 11'201 11'824 12'425 13'006 13'567 14'108 14'630 15'133 15'618	9'190 9'876 10'539 11'180 11'800 12'398 12'976 13'534 14'071 14'589 15'088 15'569	9.176 9.860 10.520 11.159 11.776 12.371 12.945 13.499 14.033 14.547 15.042 15.518	9.161 9.842 10.500 11.136 .11.749 12.341 12.912 13.462 13.992 14.502 14.993 15.464 15.917	1 2 3 4 15 6 7 8 9 20 1 2
2 9.9 3 10.6 4 11.3 15 11.9 6 12.5 7 13.1 8 13.7 9 14.2 20 14.8 1 15.3 2 15.8 3 16.3 4 16.8 25 17.2 6 17.7 7 18.1 8 18.5 9 18.9 80 19.3 1 19.6 2 20.0 3 20.3 4 20.6 85 20.9 6 21.2 7 21.5 8 21.8	969 9.95 948 10.63 95 11.29 942 11.92 959 12.54 13.13 13.71 14.26 14.26 14.86 15.32 16.31 16.31 16.78 16.31 16.78 17.23	958 9'947 635 10'621 291 11'275 926 11'908 540 12'520 135 13'112 711 13'685 267 14'239 805 14'774 325 15'291 827 15'790 312 16'271 780 16'735 231 17'183 665 17'614	9'934 10'607 11'258 11'889 12'498 13'088 13'658 14'209 14'741 15'254 15'750 16'228 16'689	9.921 10.591 11.240 11.868 12.475 13.629 14.177 14.706 15.216 15.708 16.182 16.639	9.906 10.575 11.221 11.846 12.451 13.035 14.143 14.669 15.175 15.664 16.134 16.587	9.892 10.557 11.201 11.824 12.425 13.006 13.567 14.108 14.630 15.133 15.618	9.876 10.539 11.180 11.800 12.398 12.976 13.534 14.071 14.589 15.088 15.569	9.860 10.520 11.159 11.776 12.371 12.945 13.499 14.033 14.547 15.042 15.518	9.842 10.500 11.136 .11.749 12.341 12.912 13.462 13.992 14.502 14.993 15.464 15.917	2 3 4 15 6 7 8 9 20 1 2
3 10.6 4 11.3 15 11.9 6 12.5 7 13.1 8 13.7 9 14.2 20 14.8 1 15.3 2 15.8 3 16.8 25 17.2 6 17.7 7 18.1 8 18.5 9 18.9 30 19.3 1 19.6 2 20.0 3 20.3 4 20.6 85 20.9 6 21.2 7 21.5 8 21.8	10.63 11.29 12.54 12.57 13.13 13.71 13.13 14.26 14.26 15.32 16.31 16.31 16.31 16.31 16.31 16.31 16.31 16.31	635 10.621 291 11.275 926 11.908 540 12.520 135 13.112 711 13.685 267 14.239 805 14.774 325 15.291 827 15.790 312 16.271 780 16.735 231 17.183 665 17.614	10·607 11·258 11·889 12·498 13·658 14·209 14·741 15·254 15·750 16·228 16·689	10.591 11.240 11.868 12.475 13.662 13.629 14.177 14.706 15.216 15.708 16.182 16.639	10.575 11.221 11.846 12.451 13.035 13.599 14.143 14.669 15.175 15.664 16.134 16.587	10.557 11.201 11.824 12.425 13.006 13.567 14.108 14.630 15.133 15.618 16.084	10.539 11.180 11.800 12.398 12.976 13.534 14.071 14.589 15.088 15.569 16.031	10.520 11.159 11.776 12.371 12.945 13.499 14.033 14.547 15.042 15.518	10.500 11.136 11.749 12.341 12.912 13.462 13.992 14.502 14.502 14.502	3 4 15 6 7 8 9 20 1 2
4 11.3 15 11.9 6 12.5 7 13.1 8 13.7 9 14.2 20 14.8 1 15.3 2 15.8 3 16.8 3 16.8 25 17.2 6 17.7 7 18.1 8 18.5 9 18.9 30 19.3 1 19.6 2 20.0 3 20.3 4 20.6 8 21.2 7 21.5 8 21.8	305 11'29 342 11'92 559 12'54 557 13'13' 735 13'13' 735 13'13' 74'26' 834 14'86 15'32 15'82 15'82 16'31 16'78 16'78 17'23	291 11'275 926 11'908 540 12'520 135 13'112 711 13'685 267 14'239 805 14'774 325 15'291 827 15'790 312 16'271 780 16'735 231 17'183 665 17'614	11.258 11.889 12.498 13.088 13.658 14.209 14.741 15.254 15.750 16.228 16.689	11.240 11.868 12.475 13.062 13.629 14.177 14.706 15.216 15.708 16.182 16.639	11.221 11.846 12.451 13.035 13.599 14.143 14.669 15.175 15.664 16.134 16.587	11.201 11.824 12.425 13.006 13.567 14.108 14.630 15.133 15.618 16.084	11'180 11'800 12'398 12'976 13'534 14'071 14'589 15'088 15'569	11.159 11.776 12.371 12.945 13.499 14.033 14.547 15.042 15.518	11.136 11.749 12.341 12.912 13.462 13.992 14.502 14.993 15.464 15.917	15 6 7 8 9 20 1 2
15 11'9.6 12'5.7 13'1 8 13'7.9 14'2 20 14'8 3 15'3 2 15'3 3 16'8 3 16'8 25 17'7 18'1 8 18'5 9 18'9 30 19'3 19'6 2 20'0 3 20'6 35 20'9 6 21'2 7 21'5 8 21'8	11'92'54'559'12'54'559'13'13'13'13'13'13'13'13'13'13'13'13'13'	926 11'908 540 12'520 135 13'112 711 13'685 267 14'239 805 14'774 325 15'291 827 15'790 312 16'271 780 16'735 231 17'183 665 17'614	11.889 12.498 13.088 13.658 14.209 14.741 15.254 15.750 16.228 16.689	11.868 12.475 13.062 13.629 14.177 14.706 15.216 15.708 16.182 16.639	11.846 12.451 13.035 13.599 14.143 14.669 15.175 15.664 16.134 16.587	11.824 12.425 13.006 13.567 14.108 14.630 15.133 15.618 16.084	11.800 12.398 12.976 13.534 14.071 14.589 15.088 15.569	11.776 12.371 12.945 13.499 14.033 14.547 15.042 15.518 15.976	11'749 12'341 12'912 13'462 13'992 14'502 14'993 15'464 15'917	15 6 7 8 9 20 1 2
6 12.5 7 13.1 8 13.7 9 14.2 20 14.8 1 15.3 2 15.8 3 16.3 4 16.8 25 17.2 6 17.7 7 18.1 8 18.5 9 18.9 30 19.3 1 19.6 2 20.0 3 20.3 4 20.6 85 20.9 6 21.2 7 21.5 8 21.8	12.54 13.71 13.71 13.71 13.71 13.71 14.26 14.26 15.32 15.32 15.82 15.82 16.31 16.78 17.23	540 12°520 135 13°112 711 13°685 267 14°239 805 14°774 325 15°291 827 15°790 312 16°271 780 16°735 231 17°183 665 17°614	12.498 13.088 13.658 14.209 14.741 15.254 15.750 16.228 16.689	12.475 13.062 13.629 14.177 14.706 15.216 15.708 16.182 16.639	12'451 13'035 13'599 14'143 14'669 15'175 15'664 16'134 16'587	12.425 13.006 13.567 14.108 14.630 15.133 15.618 16.084	12.398 12.976 13.534 14.071 14.589 15.088 15.569 16.031	12.371 12.945 13.499 14.033 14.547 15.042 15.518 15.976	12.341 12.912 13.462 13.992 14.502 14.993 15.464 15.917	6 7 8 9 20 1 2
7 13.1 8 13.7 9 14.2 20 14.8 1 15.3 2 15.8 3 16.3 4 16.8 25 17.2 6 17.7 7 18.1 8 18.5 9 18.9 30 19.3 1 19.6 2 20.0 3 20.3 4 20.6 85 20.9 6 21.2 7 21.5 8 21.8	13.13 13.71 13.71 13.71 14.26 33.4 14.86 35.7 15.32 36.2 15.82 15.82 16.31 16.78 27.6 17.23	135 13'112 711 13'685 267 14'239 805 14'774 325 15'291 827 15'790 312 16'271 780 16'735 231 17'183 665 17'614	13.088 13.658 14.209 14.741 15.254 15.750 16.228 16.689	13.062 13.629 14.177 14.706 15.216 15.708 16.182 16.639	13.035 13.599 14.143 14.669 15.175 15.664 16.134 16.587	13.006 13.567 14.108 14.630 15.133 15.618 16.084	12.976 13.534 14.071 14.589 15.088 15.569 16.031	12.945 13.499 14.033 14.547 15.042 15.518 15.976	12.912 13.462 13.992 14.502 14.993 15.464 15.917	7 8 9 20 1 2
8 13.7 9 14.2 20 14.8 1 15.3 2 15.8 3 16.3 4 16.8 25 17.2 6 17.7 7 18.1 8 18.5 9 18.9 30 19.3 1 19.6 2 20.0 3 20.3 4 20.6 85 20.9 6 21.2 7 21.5 8 21.8	135 13.71 194 14.26 334 14.86 357 15.32 362 15.82 350 16.31 321 16.78	711 13.685 267 14.239 805 14.774 325 15.291 827 15.790 312 16.271 780 16.735 231 17.183 665 17.614	13.658 14.209 14.741 15.254 15.750 16.228 16.689	13.629 14.177 14.706 15.216 15.708 16.182 16.639	13'599 14'143 14'669 15'175 15'664 16'134 16'587	13.567 14.108 14.630 15.133 15.618 16.084	13.534 14.071 14.589 15.569 16.031	13'499 14'033 14'547 15'042 15'518	13'462 13'992 14'502 14'993 15'464 15'917	8 9 20 1 2
9 14.2 20 14.8 1 15.3 2 15.8 3 16.3 4 16.8 25 17.2 6 17.7 7 18.1 8 18.5 9 18.9 30 19.3 1 19.6 2 20.0 3 20.3 4 20.6 85 20.9 6 21.2 7 21.5 8 21.8	334 14.26 357 15.32 362 15.82 350 16.31 321 16.78	267 14 239 805 14 774 325 15 291 827 15 790 312 16 271 780 16 735 231 17 183 665 17 614	14.209 14.741 15.254 15.750 16.228 16.689	14'177 14'706 15'216 15'708 16'182 16'639	14.143 14.669 15.175 15.664 16.134 16.587	14.108 14.630 15.133 15.618 16.084	14.071 14.589 15.088 15.569 16.031	14.033 14.547 15.042 15.518 15.976	13'992 14'502 14'993 15'464 15'917	9 20 1 2
20 14.8 1 15.3 2 15.8 3 16.3 4 16.8 25 17.2 6 17.7 7 18.1 8 18.5 9 18.9 30 19.3 1 19.6 2 20.0 3 20.3 4 20.6 35 20.9 6 21.2 7 21.5 8 21.8	334 14.86 357 15.32 362 15.82 350 16.31 321 16.78	805 14'774 325 15'291 827 15'790 312 16'271 780 16'735 231 17'183 665 17'614	14.741 15.254 15.750 16.228 16.689	14.706 15.216 15.708 16.182 16.639	14.669 15.175 15.664 16.134 16.587	14.630 15.133 16.084	14.289 15.269 16.031	14.547 15.042 15.518 15.976	14'502 14'993 15'464 15'917	20 1 2
1 15.3 2 15.8 3 16.3 4 16.8 25 17.7 7 18.1 8 18.5 9 18.9 30 19.3 1 19.6 2 20.0 3 20.3 4 20.6 85 20.9 6 21.2 7 21.5 8 21.8	357 15.32 350 16.31 362 16.78 376 17.23	325 15°291 827 15°790 312 16°271 780 16°735 231 17°183 665 17°614	15°254 15°750 16°228 16°689	15.42 16.183 16.183	15'175 15'664 16'587	15.133 12.084	15.088 12.269	15.042 15.218 15.976	14'993 15'464 15'917	1 2
2 15.8 3 16.3 4 16.8 25 17.2 6 17.7 7 18.1 8 18.5 9 18.9 30 19.3 1 19.6 2 20.0 3 20.3 4 20.6 85 20.9 6 21.2 7 21.5 8 21.8	362 15.82 350 16.31 321 16.78 276 17.23	827 15.790 312 16.271 780 16.735 231 17.183 665 17.614	15.750 16.228 16.689	15.408 16.183 16.639	15.664 16.134 16.282	15.018	16.031	15.218	15.464	2
3 16.3 4 16.8 25 17.2 6 17.7 7 18.1 8 18.5 9 18.9 30 19.3 1 19.6 2 20.0 3 20.3 4 20.6 85 20.9 6 21.2 7 21.5 8 21.8	350 16.31 321 16.78 376 17.23	312 16·271 780 16·735 231 17·183 665 17·614	16.228 16.689	16.183	16·134 16·587	16.084	16.031	15.976	15.014	1
4 16.8 25 17.2 6 17.7 7 18.1 8 18.5 9 19.3 1 19.6 2 20.0 3 20.3 4 20.6 85 20.9 6 21.2 7 21.5 8 21.8	321 16.78 276 17.23	780 16.735 231 17.183 665 17.614	16.689 17.133	16.639	16.282					
25 17.2 6 17.7 7 18.1 8 18.5 9 18.9 30 19.3 1 19.6 2 20.0 3 20.3 4 20.6 85 20.9 6 21.2 7 21.5 8 21.8	276 17.23	231 17·183 665 17·614	17.132			1 ~ ~ 33~ 1	1111/1/5	16'415	110 251	4
6 17.7 7 18.1 8 18.5 9 18.9 30 19.3 1 19.6 2 20.0 3 20.3 4 20.6 85 20.9 6 21.2 7 21.5 8 21.8		665 17.614		17 079		16.963	16.901	16.836	16.767	25
7 18·1 8 18·5 9 18·9 30 19·3 1 19·6 2 20·0 3 20·3 4 20·6 85 20·9 6 21·2 7 21·5 8 21·8	nr			17.201		17.377	, ,	17.239	17.164	8
8 18.5 9 18.9 80 19.3 1 19.6 2 20.0 3 20.6 85 20.9 6 21.2 7 21.5 8 21.8					17.842	17.773	17.701	17.625	17.242	7
9 18.9 30 19.3 1 19.6 2 20.0 3 20.3 4 20.6 35 20.9 6 21.2 7 21.5 8 21.8				18.208		18.124	18.076	17.994	17.908	8
30 19'3 1 19'6 2 20'0 3 20'3 4 20'6 35 20'9 6 21'2 7 21'5 8 21'8			18.743	18.672	18.296	18.214	18.434	18.346	18.253	9
1 19.6 2 20.0 3 20.3 4 20.6 85 20.9 6 21.2 7 21.5 8 21.8		· · · i	19'107	19.030		18.865	18.776	18.682	18.282	30
2 20.0 3 20.3 4 20.6 35 20.9 6 21.2 7 21.5 8 21.8			19.455	19,343		19'197		10,001	18.894	î
4 20.6 85 20.9 6 21.2 7 21.5 8 21.8	, -	7 7 7	19.788	19.701		19.213	-	19.304	19.190	2
85 20'9 6 21'2 7 21'5 8 21'8	1	- ' -	20.106	20'014	19.916	19.813	19.705	19.291	1 :	3
6 21.8 7 21.8 8 21.8	73 20.20	590 20.202	20.410	20,315	20.508	20'099	19.983	19.862	19.734	4
6 21.8 7 21.8 8 21.8	78 20.80	891 20.798	20.699	20.202	20.485	20.369	20'247	20.118	19'982	35
7 21.8 8 21.8		1		20.864		20.625		20.359	20.214	6
		1 1 1 1 1 1		21.110	20.996	20.866	20.729	20.282	20.431	7
8 22.0					21.530	21.093	20.948	20.795	20.634	8
	067 21.95	957 21.841	21.218	21.287	21.420	21.305	21.125	20.992	20.822	9
	306 22.19			21.801	21.626	21.204	21.343	21.174	20.995	40
		412 22.582		22.003	21.849	21.689	21.250	21.343	51.122	1
	748 22.62	620 22.484	22.341			21.861			21,301	2
8 22.9	22.81	816 22.673	22.23	22.363		22.010		21.639		3
4 23'1	141 23'00	000 22.850				22.162	1 .	21.768		4
45 23.3		171 23.012			22,491					45
	319 23.17					22'420		21.990		6
	319 23 ¹ 17	331 23.167		22.938	22.739	22.230				8
	319 23'17 186 23'33 542 23'48	331 23·167 480 23·308	23'128	. 77.000	22.845			22,199		1
239	319 23'17 486 23'33 542 23'48 786 23'61	331 23'167 480 23'308 617 23'438	23.520			00'07	1001480	. 22'22X	1 7 I 'NA 4	1 9
20	319 23'17 486 23'33 542 23'48 786 23'61	331 23·167 480 23·308	23.250			22.41	22.483	22·238 28	21.084	9

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VALUES OF TEMPORARY ANNUITIES OF 1

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Duration. O 1 2 3 4 5	21-962 '000 '970 1'911 2'821 3'705 4'560	1,000	I	21.001	20.673	20.340	20.004	19-663	10:010	39	Dura tion.
1 2 3 4 5	.970 1.911 2.821 3.705	1,000	I					10 000	19.319	18.969	1
2 3 4 5	1.911 2.821 3.402	1,000		.000	.000	,000	.000	.000	.000	.000	0
3 4 5	2.821 3.705		'969	•969	'969	.968	.968	.968	'967	'967	ľĭ
4 5	3.402		1,000	1,008	, , ,		1.902	1.004	1.003	1.902	2
5		2.820	2.818	2.817	2.815		2.811	2.809	2.802	2.802	3
	4.260	3.405	3.400	3.697	3.694		3.688	3.682	3.681	3.678	4
		4.226	4.552	4.248	4.244		4.535	4.230	4.22	4.20	5
6	5.389	5.383	5.378	5.372	5.366		5:354	5.347	5.340	5.333	6
7 8	6.191 6.961	6.184	6.177	6.030 9.160	6.161		6.145	6.136 6.897	6.126	6.116	7
9	7.718	7.707	7.695	7.684	7.671		6.908 7.645	7.630	6·88 ₅	6.872	8
10	8.444	8.431	8.417	8.402	8.387		8.355		_	7.599	9
1	9.146	9.130	9.114	9.096	9.078	8.371 9.059	9.040	8·338	8.319	8·299 8·973	10
2	9.824	9.806	9.786	9.766	9.745	9.722	9.699	9.674	9.648	9.620	1 2
8	10.479	10.458	10.435	10.412	10.382	10,361	10.334	10,302	10.54	10.541	3
4	11,115	11.087	11,001	11.034	11.006	10.975	10.944	10.011	10.875	10.837	4
15	11.722	11'694	11.664	11.633	11.601	11.267	11.231	11'492	11.451	11.408	15
6	12.311	12.279	12.245	12,510	12.173	12.132	12.094	12.020	12.004	11.024	6
7	12.878	12.842	12.805	12.765	12.724	12.080	12.634	12.282	12.232	12.476	7
8	13.424	13.384	13'342	13.508	13.52	13.503	13.121	13.096	13.037	12.974	8
9	13.920	13.006	13.829	13.810	13.759	13.404	13.646	13.282	13.219	13.449	9
20	14.456	14.407	14.352	14.301	14'244	14.183	14.119	14.021	13.978	13.000	20
1	14'942	14.888	14.831	14.772	14.708	14.642	14.21	14.496	14.412	14.329	1
2	15.408	15.349	15.587	15.555	15.125	15.049	12,001			14.732	2
3 4	15.855	15.791	15.723	15.652	15.276	15.495	15.410	15.320	15.553	12.119	3
_	16.584	16.214	16.140	16.062	15.979	15.892	15.799	15.400	15.234	15.481	4
25	16.694	16.618	16.238	16.453	16.363	16.568	16.164		15.944	12.821	25
6 7	17.086	17.004	16.917	16.825	16.728	16.624 16.961	16.212		16.274	16'141	6
8	17.817	17.372	17.620	17.178	17.073	17.279	17.121			16.439	7 8
9	18.129	18.023	17'944	17.829	17.707	17.578	17.441	- 1		16.972	9
30	18.478	18.368	18.521	18.158	17'997	17.858			1	17.213	30
ĭ	18.483	18.665	18.231	18.408	18.568	18.130				17.432	1
2	19'071	18.945	18.812	18.671	18.22	18.364				17.633	2
8	19.343	19.209	19.067	18.917	18.758	18.590		_		17.815	8
4	19.298	19.456	19.305	19.146	18.977	18.799	18.611	18.413	18.505	17.980	4
35	19.838	19.687	19.527	19.358	19.180	18.992	18.793	18.283	18.362	18.128	35
6	20.065	19.902	19.733	19.555	19.366	19.168		18.738	18.202	18.561	6
7	20.51	20,105	19.923	19.735	19.237	19.328	- 1			18.378	7
8	20.464	20.586	20.008	19.000	19.692	19.473		-		18.481	8
9	20.643	20.456	20.528	20.021	19.832	19.603		19,110	18.846	18.240	9
40	20.808	50.911		20.184		19.719		1		18.647	40
	20.928			20,300	20.071					18.712	1
	21.092	20.880		20.418		19.912				18.767	2
3 4	31,331	20.992		20.214	20.228	20.028	1			18.813	3 4
	21.331	- 1		20.299			1			18.880	1
	21'430		20'936		20.399	20'115			, ,	18.904	45
	21.218	21.334		20'736 20'790	20'455 20'502	20'164				18.922	6 7
	31.665	21.397		20.832	20.240	20.536				18.936	8
	21.420	21.447		20.823	20.242	20.563				18.946	9
	30	31	32	33	34	35	36	37	38	39	

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. VALUES OF TEMPORARY ANNUITIES OF 1

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Dura	40	4I	42	43	44	45	46	47	48	49	Dura-
tion.	18.615	18:257	17:894	17:526	17:155	16.780	16:399	16.016	15.628	15.238	tion.
0	.000	.000	.000	.000	.000	.000	.000	*000	.000	.000	0
1	'967	•966	.96 6	.965	965	·964	.964	•963	.962	·962	1
2	1,001	1.900	1.898	1.897	1.892	1.894	1.892	1.890	1.888	1.886	2
3	2.803	2.801	2.798	2.795	2.792	2.789	2.786	2.782	2.778	2.773	3
4	3.674	3.640	3.666	3.661	3.656	3.621	3.645	3.638	3.632	3.624	4
5	4.214	4.208	4.202	4'495	4.487	4.479	4.470	4.461	4.421	4.439	5
6	5.325	5.316	5'307	5'297	5.287	5.276	5.563	5.220	5.232	5.550	6
7	6.106	6.094	6.085	6.0 69	6.022	6.040	6.033	6.006	5.986	5.962	7
8	6.828	6.843	6.828	6.811	6.793	6.773	6.752	6.729	6'704	6.677	8
P	7.282	7.264	7.544	7.23	7.200	7.476	7.449	7.420	7:388	7.354	9
10	8.279	8.256	8.232	8.306	8.178	8.148	8.112	8.079	8.041	7.999	10
1	8.948	8.921	8.892	8.860	8.826	8•790	8.751	8.708	8.661	8.611	1
2	9.290	9.228	9.24	9.486	9.446	9.403	9:356	9:306	9.251	9,191	2
8	10.300	10.199		10.082	10.038	9 .9 87	9.932	9.873	9.809	9.740	3
4	10.494	10.423	10.406	10.626	10,001	10.243	10.479	10.411	10.336	10.522	4
15	11.365	11.311	11.528	11.500	11.134	11.040	10.992	10.010	10.834	10.743	15
В	11.001	11.844	11.483	11.414	11.646	11.240	11.487	11.398	11,305	11,133	6
7	12.416	12.325	12.583	12.508		12'042	11'949	11.849	11.41	11.625	7
8	12.302	12.832	12.758	12.674	12.284	12.488	12.384	12.271	12.121	12'022	8
9	13.374	13.593	13.502	13.114	13'014	12.907	12.791	12.667	"	12.390	9
20	13.817	13.728	13.632	13.229	13.418	13,300	13.175	13.034	12.887	12.730	20
1	14.532	14.138	14'033	13.019	13.797	13.667	13.226	13.376		13.043	1
2	14.634	14.226	14.410	14.582	14'151	14.000	13.855	13.691	,	13.329	2
8	12.000	14.890	14.763	14.627			14.129	13.081	13.792	13.290	3
4	15.361	15.331	15.093	14'945	14.787	14.619	14'439	14'247	14.043	13.826	4
25	15.691	15.221	15'401	15.541	15.040	14.889	14.692	14.488	14.569	14.038	25
6	12.999	15.848	15.687	15.214		15.132	14.927	14.407	14.473	14.554	6
7	16.582	16.134	15.950	15.762	15.268		15.138		14.655	14.394	7
8	16.223	16.379	16.193	15.992	15.785	15.263	15.327	15.078	14.816	14.241	8
9	16.800	16.613	16.412	16.304	• •	.15°745	15.496	15.533	14'957	14.668	9
30	17.026	16.827	16.614	16.393	16.124	15.008	15.645	15.369	15.080	14.778	30
1 1	17.534	17.022	16.799	16.263		16.025	15.777	15.488	12.186	14.872	1
2	17.422	17.199	16.964	16.712	16.453	16.179	15.891	15.289	15.276	14.950	2
3 4	17.593	17.358	17.110	16.849	16.575	16.589		15.676	15.351	15.012	8
	17.746	17.499	17.340	16'967	16.681	16.383	16.072	15.749	15'414	15.068	4
35	17.883	17.624	17.354	17.069		16.464	16.145	15.809		12,111	35
6	18.004	17.734	17'453	17.128		16.232	16.301	15.859	15.206	15.142	6
7	18,111	17.830	17.538	17.233	16.919	16.288	16.248	15.898	15.239	15.171	7
8 9	18.383	17.912	17.610	17.296	16.970	16.634	16.586	15.020	15.264	15.101	8
	ا م	17'982	17.671	17:348	17.014	16.671	16.317	15.954	15.283	15.206	9
40		18'041				16.400					40
1	18.407		17.763	17.425	17.078	16.722	10.328	15.986			1
2	18.454		17.796			16.739			15.612	15.550	2
8 4	18.493	18.182	17.822		17 110	16.752	10 301	16.008		•	3 4
1	18.24			17.489		16.761		ı		15.235	
45	18.548	18.207	17.858	17.201	17.137					15.536	45
6 7	18.267	10 222	17.869	17.510	17 144	16.772			15.627	15.237	6
8	18.582 18.592		17.878				10.397		15.627	15.237	7
ő	18.600		17.883	17.520				16.012		15.538	8 9
<u> </u>	10 000		1,007	17.22	1/152	16.778			-5 020	15.538	
	40	4I	42	43	44	45	46	47	48	49	

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VALUES OF TEMPORARY ANNUITIES OF 1

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Dura-	50	51	52	53	54	55	56	57	58	59	Dura-
tion.	14:844	14:447	14:049	13.648	13.245	12:842	12:438	12.033	11.629	11.226	tion.
0	,000	*000	.000	.000	.000	.000	,000	'0 00	.000	.000	0
1	' 961	•96 o	. 959	•958	'957	.956	'954	'953	.621	'949	1
2	1.883	1.881	1.878	1.875	1.871	1.868	1.864	1.859	1.824	1.849	2
8	2.768	2.763	2.757	2.751	2.44	2.736	2.728	2.719	2.710	2.699	8
4	3.616	3.607	3.298	3.587	3.575	3.263	3.220	3.535	3.219	3.201	4
5	4'427	4'414	4'400	4.384	4.366	4.348	4'327	4.302	4.581	4.255	5
6 7	5.505	5.184	5.164	5.861	5°117 5'828	5°091	5°063	5.032 2.032	4'999 5'671	4.962 5.623	6 7
8	5°942 6°647	5.012 6.612	5.890 6.280	6.242	6.201	5 794 6·457	6.409	6.326	6.300	6.539	8
9	7'317	7:277	7'234	7.187	7.132	7.080	7.020	6.955	6.885	6.810	9
10	7.954	7.905	7.852	7.794	7.731	7.664	7.592	7.213	7.429	7:338	10
ī	8.224	8.498	8.435	8.365	8.291	8.310	8.124	8.031	7.930	7.823	1
2	9.127	9.057	8.983	8.901	8.813	8.719	8.618	8.209	8.392	8.267	2
8	9.664	9.583	9.496	9.402	9.300		9.074	8.949	8.814	8.671	8
4	10'170	10.077	9'977	9.868	9.752	9.627	9'494	9.351	9.199	9.037	4
15	10.644	10.238	10'424	10,301	10,199	10.038	9.878	9.717	9.246	9.365	15
6	11.084	10.962	10.839	10.201	10.223	10.392	10.558	10'049	9.859	9.658	6
7	11,200	11.366	11.553	11,060	10.004	10.43	10.244	10.346	10.138	9.918	7
8	11.883	11.434	11.272	11.405	11,554	11,031	10.828	10.613	10.384	10.142	8
9	12.530	12.025	11.898	11.411	11.213	11.303	11.081	10'847	10,001	10'343	9
20	12.262	12.382	15,105	11.088	11.773	11.242	11.306	11.023	10.789	10.214	20
1	12.859	12.664	12.457	12.537	12.004	11.760	11.203	11.533	10.021	10.629	1
2	13.130	12.010	12.696	12.459	12.510	11.948	11.674	11.387	11.080	10.480	2 3
3 4	13'375	13.148	12.008	12.656	12.246	12'111	11.821	11.219	11.301	10.964	4
	13.295	13.353	13.098		12.681	12,325	11'947	1	11,301	11,030	25
25 6	13.466	13.234	13.763	12.028	12.796	12 3/2	12.025	11.421	11'380	11.083	6
7	14.110	13.831	13'407	13.512	12.892	12.226	15,511	11.856	11.443	11.154	7
8	14.51	13,020	13.636	13,310	12.025	12.624	12.268	11.003	11,231	11.124	8
9	14.362	14.051	13.725	13.386	13.037	12.679	12.314	11.940	11.261	11'177	9
30	14.463	14'136	13.798	13'449	13.000	12.723	12'349	11.068	11.283	11'194	30
1	14.244	14.306	13.858	13.499	13.131	12.756	12.375	11.989	11.298	11.502	1
2	14.612	14.264	13.906	13.239	13.163	12.782	12.395	12'004	11.609	11.513	2
3	14.667	14.310	13'944	13.240	13.188	12.801	12.410	12.014	11.617	11,510	3
4	14.712	14'347	13.974	13.263	13,500	12.814	12'420	12.031	11.622	11,535	4
35	14.747	14.372	13.996	13.610	13.510	12.824	12.426	12.056	11.625	11.324	35
6	14.774	14.397	14.013	13.623	13.558	12.831	12'431	13.039	11.627	11.552	6
7	14'795	14'413	14.025	13.632	13'234	12.835	12'434	12.031	11.628	11.550	8
8	14.810	14.424	14.034	13.638	13.538	12.838	12.436	12'032	11.629	11,550	9
9	14.821	14'432	14.039	13.642	13.541	12.839	12.437	12.033		11.550	40
40	14.825	14.438	14'043	13.644	13'243	12.840	12.437	12.033	11.629		1
1 2		14'441				12.841			11.629		2
8		14'445			13'245	12.841	15.738	12.033	11.659	_	3
4		14.446			13'245	12.841	12.438		11.629	59	
4 5		14.446		13.648		12.842			58		1
8		14'447				12.842	12.438	57		50	
7	14.843	14'447	14.049	13.648	13'245	12.842			5 1	14.844	1
8	14.843	14'447	14.049	13.648	13'245	·		52	14.447		70
9	14.843	14'447	14'049	13.648				14.049		14.844	52
						ŀ		14:040	14'447	14.844	50
								14.049			
	50	51	52	53	54	55	56	52	51	50	

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VALUES OF TEMPORARY ANNUITIES OF 1

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tion O 1	10.825	10.425	10.000								
	.000		10.028	9.635	9.245	8.859	8.478	8·103	7.733	7.870	tion.
1	000	.000	.000	'000	,000	.00 0	.000	*000	.000	,000	0
	'947	945	'943	. 940	·9 3 8	'935	.931	928	'924	920	1
2	1'843	1.837	1,830	1.853	1.814	1.802	1.796	1.785	I'774	1.761	2
3	2.688	2.675	2.661	2.647	2.630	2.613	2.294	2.223	2.221	2.222	8
4	3.482	3.461	3'439	3'414	3.388	3.359	3.328	3.592	3.259	3.550	4
5	4.554	4.196	4'163	4'127	4.088	4.042	4.000	3.921	3.899	3.842 4.398	5 6
6 7	4.923	4.880 5.212	4.834	4.785	4.731	4.673 5.245	4.612 5.162	4°545 5°079	4°474 4°987	4.889	7
8	5°571 6°173	9.103	5°455 6°025	5°390 5°944	5.320 2.820	5.762	5.662	5.222	5.441	5,351	8
9	6.729	6.641	6.248	6.448	6.341	6.556	6.102	5.976	5.840	5.696	9
10	7.240	7'135	7.023	6.904	6.776	6.641	6.498	6.346	6.186	6.010	10
1	7.708	7.584	7.453	7.313	7.165	7.008	6.842	6.668	6.485	6.294	1
2	8.133	7.990	7.839	7.679	7:509	7:330	7'142	6.944	6.739	6.24	2
3	8.218	8.356	8.184	8.003	7.811	7.610	7:399	7.180	6.925	6.716	3
4	8.864	8.681	8.489	8.586	8.073	7.850	7.619	7.378	7.129	6.872	4
15	9.173	8.970	8.757	8.233	8.299	8.022	7.803	7.242	7:273	6.998	15
6	9.446	9.223	8 .989	8.746	8.491	8.558	7.956	7.676	7:390	7:098	6
7	9.686	9'443	9,190	8.927	8.653	8.371	8.081	7.784	7.482	7:175	7 8
8 9	9.895	9.632	9.360	9.079	8.787	8.487	8.181	7.869	7.553	7.233	9
	10.074	9'794	9.203	9.202	8.896	8.281	8.261	7°935 7°985	7.647	7.308	20
20 1	10.524	9 '92 9	9.622	9.308	8.985	8.655 8.713	8·322 8·369	8.023	7.676	7.330	ı
2	10.322	10.133	9.719	9 : 390 9:456	9°054	8.757	8.404	8.049	7.696	7.345	2
3	10.248	10.302	9.859	9.507	9'149	8.789	8.429	8.068	7.710	7.355	3
4	10.618	10.562	9.007	9.545	9.179	8.812	8.446	8.081	7.719	7.361	4
25	10.674	10.311	9.943	9.574	9.301	8.829	8.458	8.000	7.725	7.365	25
6	10.416	10.342	9.970	9.594	9.217	8.840	8.466	8.092	7.729	7.367	в
7	10.749	10.370	9.990	9.609	9.227	8.847	8.471	8.099	7.731	7.369	7
8	10.443	10.389	10,003	9.619	9.234	8.852	8.474	8.100	7.732	7.369	8
9	10.40	10'402	10.013	9.625	9:239	8.855	8.476	8.103	7.733	7:370	9
30	10.803	10,410	10,019	9.629	9.341	8.857	8.477	8.103	7.733	7:370	30
1	10.811	10.416	10.053	9.632	9'243	8.858	8.478	8.103	7.733	7:370	1
2 3	10.817	10'420	10.022	9.633	9.344	8.858	8.478	8.103	7.733	7:370	2 3
4	10.822	10'422	10'027	9.634 9.635	9.244	8·8 ₅ 8 8·8 ₅ 9	8·478 8·478	8.103 8.103	7°733 7°733	7'37° 69	ľ
35	10.824	10'424	10.022	9.635	9.544	8.859	8.478	8.103	68		
6	10.824	10 424	10.028	9.635	9.245	8.859	8.478	67	-	40	
7	10.822	10,425	10.028	9.635	9°245	8.859	66		41	18:615	
8	10.822	10.425	10.058	9.635	9.245	65		42	18:257		
9	10.822	10.422	10.028	9.635	64		43	17:894		18.615	62
40	10.825	10'425	10.028	68		44	17.526	17.894	18·257 18·257	18.612	1 60
1		10.425	62	46	45	17.155					
2	10.822	61	45	46	16.780	17.122	17.526 17.526		18 ²⁵⁷	18.612	59 8
	60	48	47	16.399	16.480		17.526				7
	49	40	16.016	16.399	16.480		17.526			18.615	8
		15.628	16.016	16.399			17.526				5
	15.238	15.628	16.012	16.399	16.480			17.894			54
5 3	15.538	15.628	16.012	16.399	16.779	17.155	17.526	17.893	18.525	18.613	8
2	15.238	15.628	16.012	16.399	16.779	17.152	17.526			18.613	2
1		15.628	16.012	16.399	16.779	17.124		17.892		18.609	1
50	15.538	15.628	16.012	16.399	16.779	17.124	17.224	17.890	18.520	18.602	50
	49	48	47	46	45	44	43	42	41	40	

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VALUES OF TEMPORARY ANNUITIES OF 1

 $2^{rac{1}{2}}_{ ilde{2}}^{ ext{ per}}_{ ext{cent.}}$

Dura-	70	71	72	73	74	75	76	77	78	79	Dura-
tion.	7.014	6.665	6.324	5.991	5.667	5.352	5.045	4.749	4.462	4.185	tion.
0	,000	.000	.000	.000	.000	.000	,000	.000	,000	.000	0
	915	.910	.902	.899	.892	.885	.878	·869	.861	.851	1
3	1.748	1.733	1.717	1.700	1.685	1.663	1.641	1.618	1.293	1.266	3
4	2°501	2'473	2°443 3°085	3°033	2.375 2.978	5.338 5.338	2.397 2.856	2.224	2°208	2.129	4
5	3.782	3.1133	3.648	3.575	3.496	3'414	3.356	3.533	3.136	3.034	5
6	4.316	4.530	4.138	4.041	3.938	3.829	3'715	3.296	3'471	3.345	8
7	4.786	4.676	4.260	4.437	4.300	4'174	4.033	3.887	3.736	3.280	7
8	5'194	5.029	4.918	4.770	4.616	4.456	4.589	4.118	3'941	3.761	8
9	5'545	5.386	5.550	5.047	4.868	4.682	4'492	4.596	4.097	3.896	9
10	5.843	5.660	5.470	5'273	5.040	4.861	4.648	4'432	4.513	3.993	10
	6.094	5.888	5.674	5.454	5.229	5.000	4.767	4.232	4.396	4.061	1
2 3	6·303	6.074 6.223	5 .839	5.208 2.409	5°353 5°447	5.183	4.8 5 5	4.605 4.656	4°355 4°395	4.138	2 3
4	6.610	6.341	9.069	5.794	5.214	5'240	4.964	4.691	4.422	4.128	4
15	6.718	6.433	6.142	5.856	5.264	2.580	4'995	4.714	4'439	4.170	15
6	6.803	6.202	6.303	2,001	5.603	5.302	5.012	4.729	4.449	4.172	6
7	6.865	6.224	6.343	5.933	5.627	5.325	5.028	4.738	4.455	4.181	7
8	6.915	6.201	6.272	5'955	5.643	. 5.336	5.036	4.743	4'459	4.183	8
9	6.946	6.617	6.591	5.969	5.623	5°3 43	5.040	4.746	4.460	4'184	9
20	6.970	6.635	6.304	5.978	5.659	5'347	5.043	4'747	4.461	4.182	20
	6.084	6.647	6.313	5'984	5.663	5'349	5.044	4.748	4'462	4.182	1
2 8	6 · 997 7 · 004	6.622	6.318 6.318	5.989 5.989	5.665 5.666	5.320	5.045	4.749	4.462	4°185	2 3
4	7.009	6.662	6.322	2.990	5.666	2.321	5.045	4'749 4'749	4'462 4'462	79	ŭ
25	7.011	6.663	6.323	2,991	5.667	5.325	5.042	4.749	78		
8	7.012	6.664	6.324	2,991	5.667	5'352	5.042	77		30	
7	7.013	6.662	6.324	2.991	5.667	5.352	76		31	21.962	
8	7.014	6.665	6.324	2.991	5.667	75		32	21.646		
9	7.014	6.665	6.324	2,991	74		33	21.325	21.646	51.065 51.065	72 1
30	7.014	6.665	6.324	78	25	34	21.001	21.322	21.646	21.962	70
1 2	7.014	6.665	72	36	35	20.673	21,001	21.325	21.646	21.962	69
ا م	7.014 70	71	37		20.340	20.673	21'001	21,352		21.062	8
		38		20.004	20'340	20.673	21,001	21.325		21.962	7
	39		19.663	20'004	20.340	20.673	21.001	21.325	21.646	21.962	6
	18.969	19.319	19.663	20.004	20.340	20.673	21.001	21.325	21.646	21.961	5
		19.319	19'663	20.004	20.340	20.673	21,001	21'325	21.645	21.961	64
63	18.060	19,319	19.663	20'004	20'340	20.673	21'001	21.325	21.645	21.060	3
2	18.060	10,310	19.663 19.663	20'004	20'340	20.673	21'001	21.324	21.644	21.057	2
60	18.969	10.310	19.663	20.004	20'340	20.672	50,000	21,354	21.641	21.952	60
59	18.969					20.671		51,351	1	21.021	59
8		10,310	19.663			20.670	20.996		21.634	21.942	8
7	18.968	19.318			20.337	20.668		21.314		21.937	7
6	18.968	19.317	19.662		20.332	20.6 65	20.989	21.308	21.651	21.927	6
5	18.968	19.316	19.660		20.335	20.660		51.599	21.610	21,013	5
54	18.967	, , , ,		19.995	20.322	20.654	20.974	21.588		21.895	54
3	18.963			19,001		20.645				21.873	3 2
2	18.929	19.304	19.643	19.984	20,315	20.633 20.633	20'948 20'928	21.521	21.224	21.845	1
50	18.954	19 304	19.633			20.298	20'904	21,501	21,400	21.769	50
				1							
	39	38	37	36	35	34	33	32	31	30	

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VALUES OF TEMPORARY ANNUITIES OF 1

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m per}$ cent.

Dura-	80	81	82	83	84	85	86	87	88	89	Dura-
tion.	3.918	3.662	3.416	3.180	2.954	2.739	2.534	2:340	2.155	1.981	tion.
0	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	0
1 1	·841	.82 9	.817	.804	.790	.775	759	.741	.723	.704	1
2	1.238	1.202	1'474	1'440	1'402	1.363	1.322	1.278	1.535	1 184	2
3	2.104	2.02	1'994	1'932	1.864	1.799	1.728	1.655	1.249	1.201	3
4	2.262	2.482	2.396	2.306	2.515	2'114	2.012	1'912	1.808	1.203	4
5	2.927	2.816	2.401	2.283	2.461	2.336	2.510	2.085	1.954	1.826	5
6	3.508	3.060	2.928	2.783	2.636		2.339	2.130	2.044	1.899	6
7	3.420	3.257	3.091	2.924	2.755	2.288	2'421	2.257	2.096	1'940	7
8	3.278	3.393	3.506	3.050	2.835	2.621	2.472	2.296	2.136	1,961	8
9	3.692	3:488	3.582	3.084	2.882	2.690	2,201	2.314	2'141	1.972	9
10	3.773	3.554	3'337	3.134	2.016	2'713	2'518	2.329	2'149	1.977	10
1 1	3.827	3.257	3.370	3'149	2'934	2.726	2.256	2.332	2'153	1.980	1
2	3.864	3.624	3.390	3.163	2'944		2.231	2.338	2.124	1.981	2
8	3.887	3.641	3'402	3.171	2'949	2.736	2.233	2.339	2.122	1,081	3
4	3.001	3.621	3'409	3.146	2.952	2.738	2.234	2.339	2.122	89	
15	3.909	3.626	3'412	3.178	2.953	2.739	2.234	2'340	88		
6	3'914	3.659	3.414	3.179	2.954		2.234	87		20	
7	3.916	3.661	3.415	3.179	2.954	2.739	86		21	24.901	
8	3.917	3.661	3.415	3.180	2.954	85		22	24:627		
9	3.018	3.662	3.416	3.180	84		23	24:348		24'901	82
20	3.018	3.662	3.416	83		24	94.005	24040	24.627	24'901	1
1	3.918	3.662	82		25	00.777	24.065	24.348	24.627	24'901	80
2	3.918	81		26	99,494	23.777	24.062	24.348	24.627	24.900	79
1	80		27	23.188	28.484	23.777	24.062			24.900	8
		28	22.888		23.484		24.062	24.348		24.900	7
	29		-	23.188	23.484		24.065			24.900	6
		22.583	22.888	23.188	23.484		24.062	24.348	24.627	24.900	5
	22.275	22.283	22.888	23'188	23.484	23.777	24.062	24'348		24.900	74
73	22.275	22.283	22.888	23.188		23.777	24.062			24.900	3
2	22.275	22.283	22.888	23.188		23.777	24.062	24.348	24.626	24.899	2
1	22.274	22.283	22.888			23.777	24.064			24.897	1
70	22.274	22.283	22.882		23.484	23.776	24.064	24.346	24.624	24.895	70
69	22'274	22.283	22.887	23.188	23'484	23.776	24.063	24'345	24.622	24.892	69
8	22.274	22.283	22.887	23.188	23.483	23.775	24'062	24'343	24.619	24.888	8
7	22.274	22.283	22.887		23'482	23.773	24.029	24'340	24.612	24.882	7
6	22.274	22.283	22.886	23'186	23.481	23.771	24.026	24'335	24.609	24.875	6
5	22.273	22.282	22.882	23.184	23.479	23.768	24.02	24'329	24.601	24.864	5
64	22.273	22.281	22.883	23.185		23.763	24.045	24.321	24.290	24.851	64
3	22.272	22.579	22.881			23.757	24'037	24.310	24.276	24.834	3
2	22.270	22.577	22.877	23.173		23.748		24.296	24.229	24.814	2
1	22.267		22.872	23.164		23.736	24'011		24.238	24.788	1
60	22.563	_				23.722	23.993	24.526	24.211	24.757	60
59	22.258	22.260	22.856			23.403		24.529	24.480		59
8	22.220	22.221	22.843	23'129	23.408	23.679	23.942		24.445	24.678	8
7		22.238			23.384	23.651	23.000			24.628	7
6	22.552	_			23.354		23.869			24.240	6
5		22.200	22.781		23.319		23.822		24.582	24.202	5
54	22.188		22.749	23.018	23.277	23.22	23.768	23.998	24.550	24.431	54
3	22.161	22'441	22.712	22.974			23.705	23.929		24.348	3
2	22'127		22.667	22.923		23.406	23.633	23.851		24.526	2
1	22.084	22.326	22.614		23.103	2 3 '333	23.223	23.763	23.963	24.124	1
50	22.040	22.302	22.223	22.795	23.022	23.220	23.462	23.665	23.858	24.041	50
	29	28	27	26	25	24	23	22	21	20	

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VALUES OF TEMPORARY ANNUITIES OF 1 2 PER 2 CENT.

	90	91	92	93	94	95	96	97	98	00	
Dura- tion.										99	Dura- tion.
	1.816	1.661	1.214	1.379	1.248	1.183	1.018	•925	*833	·708	
0	.000	.000	,000	.000	,000	.000	.000	,000	,000	.000	0
1	.682	.661	.636	613	.585	.261	.529	.202	·488	455	1
2 3	1,133	1,081	1.027	'973	914	.858	796	751	710	646	3
4	1,430	1'339	1.383 1.383	1'174	1.172	1,001	'926 '985	·863	·803	.708	٥
5	1.699	1.242	1'451	1.334	1.518	1'114	1,010	910	96	99	
8	1.757	1.650	1'485	1.361	1,538	1,158	1,018	973		10	
7	1.787	1.642	1,203	1.373	1.546	1,133	98		II		
8	1.803	1.623	1.211	1.378	1.248	95		12	07-100	27.354	
9	1.810	1.628	1.213	1.379	94		13	26.906	27.133	27.354	92
10	1.814	1.661	1.214	98		14	26.675		27.133	27.354	1
1	1.812	1.991	92		15	26.437		26.306	27.132	27.354	90
2	1.816	91		16	26.194		26.675	26.906	27.132	27.354	89
	90	-0	17	25.947	-	26.437	26.674	26.906	27.132	27.354	8
		18	25.692	05:045	26°194	26.437 26.437	26.674 26.674	26.006		27.353	7
	19	25.434	25.692	25 ⁹⁴⁷	26.194	26.437	26.674	26.906 26.906		27.353	6
	25.170		25.692	25.946	26.194	26.437	26.674	26'906	27.132	27.353	5
83	25.170	25'434 25'434	25.692	25.946		26.437	26.674	26.000		27.353	84
2	25.140	25'434	25.692	25.946	26.194	26.437	26.674	26.902		27.353 27.352	8 2
l ī	25.140	25.434	25.692	25'946	26.104	26.436	26.674	26.902	27.131	27.351	î
80	25.170	25.434	25.692	25.946	26.194	26.436	26.673	26.904	27.130	27.350	80
79	25.170	25.434	25.692	_	26.193	26.436	26.673	26.903	27.128	27'347	79
8	25.170	25.434		25.946		26.435	26.672	26.903		27.344	8
7	25'170	25.434		25.945	26.192	26.434	26.670		27.123	27.340	7
6	25.170	25'433	25.692	25'944	26.191	26.432	26.668	26.896	27.118	27.334	6
5	25.169	25.433	25.691	25'943	26.189	26.430	26.664	26.891	27'112	27:326	5
74	25.169	25.432	25.690	25.941		26.426	26.659	26.885	27'104	27.316	74
3	25.168	25.431	25.688	25.939	26.183	26.421	26.653	26.877	27.094	27:304	8
2		25.429	25.685	25.932		26.412	26.645	26.866	27.081	27.288	2
70	25'165	25.426	25.681	25.930	26'171	26.406	26.634	26.853	27.065	27.269	1
	25.165	25.422	25.676	25.923	26.163	26.395	26.620	26.836	27.045	27.246	70
69 8	25.128	25.417	25.669	25.914	26.121	26.381	26.603	26.816	27.021	27.218	69
7	25'152 25'145	25.409	25.659	25.887	26.132 26.132	26·363 26·342	26.282		26.993	27.186	8
8	25'135	25°400 25°387	25.647 25.632	25.868	26.096	26.316	26·557 26·527	26.762 26.728	26.921	27.148	7 6
5	22.155	25.371	25.613	25.846	26.040	26.582	26.492	26.688	26.876	27.105	5
64	25.106	25.325	25.289	25.818	26.038	26.549	26.451	26.642	26.826	56.999	64
3	25.082	25.327	25.261	25.786	26.001	26.502	26.403	26.290	26.768	26.932	3
2	25.060	25.298	25.22	25.747	25'957	26.128		26.231	26.704	26.867	2
1	25.031	25.264	25.488	25.403	25.907	26.103	26.589	26.465	26.633	26.791	1
60	24'995	25.223	25.442	25.651	25.851	26.040	26.551	26.392	26.223	26.706	60
59	24'953	25.176	25.389	25.293	25.786	25.971	26'146	26.310	26.467	26.614	59
8	24.905	25.122		25.22	25.712	25.893	26.065	26.531	26.372	26.213	8
7	24.849	25.0 60		25.453		25.807				26.402	7
6 5		24.990		25.370		25.712	25.870			26.588	6
	24.713	24.912	25.100	25.279	25.449	25.609	25.760	25.902	26.036	26.162	5
54 3	24.633	24.825	25.007	25'179	25'342	25.497	25.642			26.027	54
2	24.243 24.444	24.728 24.622	24 [.] 904	25.070 24.921	25.552			25.642		25.884	3
l î l	24'335	24.207	24 791	24.823		25°244 25°103	25.378	25.203 25.321		25.731	2 1
50	24.333	24.381	24°537	24.684		24.923	25.076	25.130 22.130	25°464 25°298	25°570 25°399	50
											
	19	18	17	16	15	14	13	12	II	10	

$\mathbf{O}_{\mathtt{M}}$

$2^{\frac{3}{4}}$ per cent.

CONSTANTS.

Constant.	Number.	Logarithm.
i	°027 5	2·439 332 7
(1 +i)	1.027 2	0.011 481 8
$(1+i)^{\frac{1}{2}}$	1.013 626 4	0.002 800 0
$(1+i)^{\frac{1}{4}}$	1.006 802 5	0.005 842 2
v	•973 236 o	7.988 218 2
g/t	986 527 3	ī·994 109 1
₽ŧ	·99 3 240 8	ī·997 054 5
d	·026 764 0	2·427 550 9
δ	027 128 7	2 ·433 428 5

 O_{M}

COMMUTATION TABLE

 $2^{\frac{8}{4}}$ PER

x	$\mathbf{D}_{m{x}}$	N_x	S_x	\mathbf{C}_{x}	\mathbf{M}_{x}	R_x	\boldsymbol{x}
10	76 239	2 055 051	44 044 188	250.80	21 238:57	876 252.65	10
11	73 949	1 978 812	41 989 137	245.53	20 987:77	855 014.08	11
12	71 724	1 904 863	40 010 325	241.06	20 742:24	834 026.31	12
13	69 563	1 833 139	38 105 462	236.66	20 501:18	813 284.07	18
14	67 465	1 763 576	36 272 323	232.33	20 264:52	792 782.89	14
15	65 427	1 696 111	34 508 747	229'35	20 032'19	772 518:37	15
16	63 446	1 630 684	32 812 636	226'36	19 802'84	752 486:18	16
17	61 522	1 567 238	31 181 952	224'60	19 576'48	732 683:34	17
18	59 651	1 505 716	29 614 714	222'17	19 351'88	713 106:86	18
19	57 832	1 446 065	28 108 998	220'88	19 129'71	693 754:98	19
20 21 22 23 24 25	56 063 54 343 52 667 51 037 49 449 47 904	1 388 233 1 332 170 1 277 827 1 225 160 1 174 123 1 124 674	26 662 933 25 274 700 23 942 530 22 664 703 21 439 543 20 265 420	220.62 220.22 220.76 221.63 222.80	18 908·83 18 688·21 18 467·99 18 247·23 18 025·60	674 625'27 655 716'44 637 028'23 618 560'24 600 313'01 582 287'41	20 21 22 23 24 25
26	46 397	1 076 770	19 140 746	225.94	17 578 55	564 484.61	26
27	44 929	1 030 373	18 063 976	228.78	17 352 61	546 906.06	27
28	43 498	985 444	17 033 603	230.40	17 123 83	529 553.45	28
29	42 104	941 946	16 048 159	233.09	16 893 43	512 429.62	29
30	40 744	899 842	15 106 213	235.91	16 660 34	495 536.19	30
31	39 418	859 098	14 206 371	237'99	16 424'43	478 875.85	31
32	38 124	819 680	13 347 273	240'61	16 186'44	462 451.42	32
33	36 863	781 556	12 527 593	242'92	15 945'83	446 264.98	33
34	35 634	744 693	11 746 037	244'93	15 702'91	430 319.15	34
35	34 435	709 059	11 001 344	247'41	15 457'98	414 616.24	35
36 37 38 39 40	33 266 32 126 31 015 29 932 28 876	674 624 641 358 609 232 578 217 548 285	9 617 661 8 976 303 8 367 071 7 788 854	249 [.] 59 251 [.] 47 253 [.] 07 255 [.] 42 257 [.] 13	15 210'57 14 960'98 14 709'51 14 456'44 14 201'02	399 158.26 383 947.69 368 986.71 354 277.20 339 820.76	36 37 38 39 40 41
41 42 43 44 45 46	27 845 26 841 25 861 24 905 23 972 23 062	519 409 491 564 464 723 438 862 413 957 389 985	7 240 569 6 721 160 6 229 596 5 764 873 5 326 011 4 912 054	259°21 261°61 263°71 266°39 269°02 272°15	13 943.89 13 684.68 13 423.07 13 159.36 12 892.97 12 623.95	325 619'74 311 675'85 297 991'17 284 568'10 271 408'74 258 515'77	42 43 44 45 46
47 48 49 50 51	23 002 22 172 21 303 20 454 19 624 18 811	366 923 344 751 323 448 302 994 283 370	4 512 054 4 522 069 4 155 146 3 810 395 3 486 947 3 183 953	275.47 275.47 278.95 283.08 287.28 292.04	12 023 95 12 351 80 12 076 33 11 797 38 11 514 30 11 227 02	245 891.82 233 540.02 221 463.69 209 666.31	47 48 49 50 51
52	18 016	264 559	2 900 583	296.80	10 336·38	186 924'99	52
58	17 237	246 543	2 636 024	301.80		175 990'01	53
54	16 474	229 306	2 389 481	307.45		165 351'83	54

 $\mathbf{N}_{x} = \mathbf{D}_{x} + \mathbf{D}_{x+1} + \dots$ $\mathbf{S}_{x} = \mathbf{N}_{x} + \mathbf{N}_{x+1} + \dots$

O_M

COMMUTATION TABLE

28 PER CENT.

x	\mathbf{D}_{x}	N_x	S_x	\mathbf{C}_{x}	\mathbf{M}_{x}	R_x	x
5 5	15 725. 14 991.	212 832.	2 160 175°	318.69 313.00	10 028'93 9 7 15'93	155 015.45	55 56
57 58	14 272° 13 565°	182 116 [.] 167 844 [.]	1 750 236. 1 568 120.	324.68 330.41	9 397 ² 4 9 072 ⁵ 6	135 270·59 125 873·35	57 58
59	12 871	154 279	1 400 276.	336.43	8 741.85	116 800.49	59
60	12 190.	141 408.	1 245 997	342.49	8 405.06	108 058 94	60
61 62	10 865.	129 218° 117 697°	1 104 589°	348·20 353·55	8 062·57 7 714 · 37	91 591.31	61 62
63	10 220'	106 832.	857 674.	358.36	7 360.82	83 876.94	63
64	9 588.2	96 6120	750 841.9	362.65	7 002.46	76 516 12	64
65 66	8 968·9 8 362·6	87 023 [.] 8 78 054 [.] 9	654 229'9 56 7 206'I	366·29 368·84	6 639 [.] 81 6 273 [.] 52	69 513·66 62 873·85	65 66
67	7 770.0	69 692.3	489 151.2	370.20	5 904.68	56 600'33	67
68	7 191.5	61 922.3	419 458.9	370.89	5 534.18	50 695.65	68
69	6 628'1	54 730.8	357 536.6	369.95	5 163.29	45 161'47	69
70 71	6 080.8	48 102'7	302 805.8	367.33	4 793°34 4 426°01	39 998·18 35 204·84	70 71
72	5 550.7 5 038.9	42 021 . 3 36 441.5	254 703'1 212 681' 2	363°18 357°04	4 062.83	30 778.83	72
78	4 547'1	31 432 3	176 210.0	349.54	3 705.79	26 71 6 .00	73
74	4 076'1	26 885.2	144 777'7	339.10	3 356.22	23 010.51	74
75	3 627'9	22 809.1	117 892.5	327.10	3 017.45	19 653.66	75
76 77	3 203.7 2 804.9	19 181 ·2 15 977 · 5	95 083.4	313'15 297'05	2 690°35 2 377°20	16 636·21 13 945·86	76 77
78	2 432.7	13 172.6	75 902°2 59 924°7	279.25	2 080.12	11 568.66	78
79	2 088.3	10 739.9	46 752 1	259.79	1 800.00	9 488.51	79
80	1 772.7	8 651.6	36 012 . 5	2 3 8·84	1 541.11	7 687 61	80
81	1 486.4	6 878.9	27 360·6	216.99	1 302.27	6 146.20	81 82
82 83	1 229.6 1 002.4	5 392.5 4 162.9	20 481.7 15 089.2	194'35 171'43	1 085.38	4 844 [.] 23 3 75 ⁸ .95	83
84	. 804.10	3 160.47	10 926.33	148.80	719.20	2 868.03	84
85	633.77	2 356.37	7 765.86	126.87	570'70	2 148.52	85
86	489.94	1 722.60		105.02	443.83	1 577.82	86 87
87 88	. 370°90 274°34	1 232.66 861.76	3 686·89 2 454·23	69.119 69.119	337 [.] 914 251 [.] 276	1 133 '992 796'078	88
89	197.88	587.42	1 592.47	53.693	182.124	544.802	89
90	138.89	389.54	1 005.02	40.653	128.464	362.645	90
91	94.219	250.651	615.213	29.674	87:811	234'181	91
92	62.315	156°132 93°817	364.862	21.098 14.588	58·137 37·039	146·370 88·233	92 93
93 94	39°549 24°203	93°017	208 [.] 730 114 [.] 913	9.422 1	22.750 7	51.193 6	94
95	14.133	30.062	60.645	5.842 1	13.3286	28.442 9	95
96	7.9128	15.932 1	30.280 o	3.266	7.486 5	15.1143	96
97	4'174 4	8.019 3			3.959 9	7.627 8 3.667 9	
98 99	2°101 4 1°022 6	3 [.] 844 9 1 [.] 743 5		530 8	1 ·998 6		
100	°464 4	720 9	!	_	445 2	693 3	
101	193 7	·256 5	.319 3	1257	.186 9	·248 I	101
102	·062 8	·062 8			.061 5	·061 2	102

 $\mathbf{N}_{x} = \mathbf{D}_{x} + \mathbf{D}_{x+1} + \dots$ $\mathbf{S}_{x} = \mathbf{N}_{x} + \mathbf{N}_{x+1} + \dots$

OM LOGARITHMS AND CO-LOGARITHMS OF D_x , N_x , C_x , M_x $2\frac{3}{4}$ cent.

\boldsymbol{x}	$\log \mathcal{D}_x$	$\log N_x$	log C.	$\log M_x$	$\operatorname{col} \mathbf{D}_{x};$	$\operatorname{col} \mathbf{N}_x$	col Cz	$\operatorname{col} \mathbf{M}_x$	x
10 11	4 [.] 882 18 ·868 93	6.312 82	2'399 32 '390 10	4'327 12	5 [.] 117 82	7·687,18 ·703 60	3.600 68 .600 90	5·672 88 ·678 03	10 11
12 13	·855 66 ·842 38	279 86 263 19	'382 13 '374 13	316 85	144 34 157 62	'720 14 '736 81	617 87	·683 15	12 18
14 15	·829 08 ·815 76	'246 39 '229 45	366 10°.	'306 74 '301 73	'170 92 '184 24	753 61	633 90	·693 26 ·698 27	14 15
16 17	·802 41 ·789 03	195 13	'354 80 '351 41	'296 73 '291 73	'197 59 '210 97	'787 63 '804 87	645 20	703 27 708 27	16
18 19	775 62 762 17	160 19	346 69	·286 73	·224 38 ·237 83	·822 26 ·839 81	·653 31 ·655 85	713 27 718 29	18
20 21 22	748 68	'142 46 '124 56 '106 47	'343 65 '342 86	276 67 271 57 266 42	'251 32 '264 86 '278 46	'857 54 '875 44	.656 35 .657 14	723 33 728 43	20 21 23
23 24	'721 54 '707 89 '694 16	'088 19	343 92 345 63 347 92	261 20 255 89	'292 11 '305 84	'930 29 '911 81 '930 29	656 08 654 37 652 08	733 58 738 80 744 II	28 24
25 26	·680 37 ·666 49	'051 03 '032 12	'35° 73	'250 49 '244 98	·319 63	948 97	.649 27 .646 01	749 51 755 02	25 26
27 28	·652 53 ·638 47	012 99 5'993 63	359 42 362 48	'239 36 '233 60	333 31 347 47 361 53	6.006 37	640 58	760 64 766 40	27 28
29 30	·624 32	'974 °3	'367 53 '372 75	'227 72 '221 68	'375 68 '389 94	'025 97 '045 83	·632 47 ·627 25	772 28 778 32	29 30
31 32	·595 69 ·581 20	'934 04 '913 64	376 56 381 31	'215 49 '209 15	'404 31 '418 80	.065 96 .086 36	618 69	784 51 790 85	31 32
33 34	.251 86	·892 96 ·871 98	385 46 389 04	°202 64	'433 41 '448 14	107 04	.614 54 .610 96	'797 36 '804 02	33 34
35 36	'537 00 '522 00	.850 68 .829 06	393 42 397 22	.185 12 .180 12	'463 00 '478 00	149 32 170 94	.606 58 .602 78	·810 85	35 36
37 38 39	'506 86 '491 57 '476 13	'807 10 '784 78 '762 09	'400 48 '403 24 '407 25	'174 96 '167 60 '160 06	'493 14 '508 43 '523 87	'192 90 '215 22	599 52 596 76 592 75	·825 04 ·832 40 ·839 94	37 38 39
40	·460 53	.739 01	410 15	152 32	·539 47	260 99	.589 85	·847 68	40
41 42 43	'444 75 '428 80 '412 64	667 19 '667 19	'413 65 '417 66 '421 12	'144 38 '136 23 '127 85	'555 25 '571 20 '587 36	'284 49 '308 42 '332 81	.586 35 .582 34 .578 88	·855 62 ·863 77 ·872 15	41 42 43
44	396 29	642 33	425 51	119 23	620 29	·357 67 ·383 04	574 49	·88o 77	44
46 47	'379 71 '362 89 '345 81	616 96 591 05 564 57	'429 78 '434 81 '440 08	'110 35 '101 20 '091 73	·637 11 ·654 19	'408 95 '435 43	.570 22 .565 19 .559 92	·898 80 ·908 27	46 47
48 49	'328 44 '310 78	'537 5 ¹ '509 80	'445 53 '451 91	'081 94 '071 79	·671 56 ·689 22	'462 49 '490 20	'554 47 '548 09	'918 o6 '928 21	48 49
50 51	·292 78 ·274 41	'481 43 '452 35	'458 31 '465 44	'061 24 '050 26	'707 22 '725 59	'518 57 '547 65	·541 69 ·534 56	·938 76 ·949 74	50 51
52 58	·255 65 ·236 45	'422 52 '391 89	'472 47 '479 72	°038 82 °026 87	744 35 763 55	.577 48 .608 11	'527 53 '520 28	'961 18 '973 13	52 58
54	216 79	360 42	·487 77	·014 37	.783 21	639 58	.512 23	.985 63	54

$$\mathbf{N}_x = \mathbf{D}_x + \mathbf{D}_{x+1} + \dots$$

$$\mathbf{S}_x = \mathbf{N}_x + \mathbf{N}_{x+1} + \dots$$

OM LOGARITHMS AND CO-LOGARITHMS OF D_x , N_x , C_x , M_x $2\frac{3}{4}$ per cent.

\int_{x}	$\log D_x$	$\log N_x$	$\log \mathbf{C}_x$	$\log M_x$	$\operatorname{col} \mathbf{D}_{x}$	col N _x	col C _x	$\operatorname{col} \mathbf{M}_x$	x
L	log D _x	log IV x		log Mx	cor D _x	cor 14x	cor Ox	COI IVI	J.
55	4.196 29	5°328 04	2.495 55	4.001 26	5.803 41	6.671 96	3.204 45	<u>5</u> ·998 74	55
56	175 84	294 70	'503 37	3.987 48	·824 16	.705 30	'496 63	4.012 22	56
57	154 47	'260 35	'511 45	'973 00	·845 53	739 65	'488 55	.027 00	57
58	132 41	'224 91	'519 45	'957 73	·867 59	775 09	'480 55	'042 27	58
59	.10 9 60	.188 31	'5 ² 7 35	'941 60	·890 40	·81169	472 65	·058 40	59
60	·o85 99	150 47	'534 65	924 54	·914 01	·849 53	'465 35	.075 46	60
61	'061 49	111 32	'541 83	906 48	'938 51	·888 68	'458 17	'093 52	61
62	.036 01	.070 77	'548 45	·887 30	'963 99	929 23	'451 55	11270	62
63	'009 45	'028 70	'554 31	·866 93	.990 22	.971 30	'445 69	133 07	63
64	3'981 74	4.985 03	559 49	.845 25	4.018 56	5.014 97	'440 51	°154 75	64
65	95274	939 64	.563 83	·822 16	·047 26	·060 36	'436 17	1177 84	65
66	922 34	892 40	.566 83	797 51	.077 66	107 60	'433 17	202 49	66
67	1890 42	*843 18	.568 79	771 20	109 58	156 82	'431 21	228 80	67
6 8	856 82	791 85	569 25	743 05	143 18	208 15	'430 75	256 95	68
69	821 39	*738 23	.568 14	712 93	17861	261 77	'431 86	'287 07	69
70	783 96	682 17	.565 06	·68o 63	216 04	31783	'434 94	'319 37	70
71	744 35	623 48	.260 13	'646 01	255 65	376 52	439 88	353 99	71
72	702 34	'561 95	552 72	608 83	297 66	438 05	447 28	391 17	72
73	657 73	497 38	543 12	·568 88	'342 27	502 62	456 88	431 12	78
74	610 25	429 51	530 33	.525 89	389 75	.570 49	469 67	'474 11	74
75	.559 66	.358 11	.514 68	479 64	'440 34	641 89	485 32	.520 36	75
76	505 65	282 88	495 75	429 81	494 35	717 12	504 25	570 19	76
77	447 91	203 51	472 83	376 07	552 09	796 49	527 17	623 93	77
78	386 09	11967	445 99	318 09	61391	·880 33	554 01	.681 91	78
79	.319 80	.031 00	414 63	255 49	·680 20	.969 00	585 37	744 51	79
80	248 63	1	'378 11	187 83	751 37	4.062 90	621 89	812 17	80
81	172 13	3.937 10	376 11	11470	827 87	162 48	663 56	.885 30	81
82	089 76	731 79	288 58	.035 54	910 24	'268 21	711 42	964 46	82
83	001 02	619 40	234 08	2.049 84	998 98	.380 60	1	3.020 19	88
84	2.002 31	'499 75	172 60	·857 o3	3.094 69	'500 25	.827 40	142 97	84
85	.801 93		l '	756 41	198 07	627 76	896 63	'243 5 9	85
86	690 14	'372 24 '236 18	103 37	150 41	309 86	763 82	975 03	352 78	86
87	·569 26	090 84	1'937 71	528 80	430 74	.909 16	2.065 50	'471 20	87
88	438 29	2.935.39	839 60	400 15	56171	3.064 61	160 40	.599 85	88
89	296 40	768 95	729 92	260 45	703 60	231 05	270 08	739 55	89
90	142 67	.200 22	.609 09	108 78	·857 33	'409 45	.390 91	891 22	90
91	1.975 52	399 97	472 37	1.943 55	2.024 48	600 93	527 63	2.026 42	91
92	794 59	193 49	324 25	764 45	205 41	806 51	675 75	°235 55	92
93	597 14	1.972 28	154 96	.568 66	402 86	2.027.73	845 04	'431 34	93
94	383 87	734 54	0.974 12	356 99	616 13		1.025 85	643 01	94
95	150 24			124 79	·849 76	.521 94	·233 43	875 21	95
96	0.898 33	'478 o6 '202 27	.766 57		ī·101 67	797 73		1.152 45	96
97		0'904 14	292 54	·597 68		197 73	707 46	402 32	97
98	322 50	584 89	.009 69	397 00	677 50	'415 11	.990 31	699 27	98
99	.009 69	241 42	1.454 91		.990 31	758 58	0.542 00		99
100		ī·857 88	'412 10	f	0.333 08	0.145 15	.587 90	1	100
101	287 16				71284	1 -	900 72	1 00	101
102		·409 09 2·798 25	099 28 2·786 47		1.501 42	1.201 72			102
	2 /90 25	2 190 25	2 /00 47	2 /00 47	201 /5	- 201 /3	3 33	3 33	

$$\mathbf{N}_x = \mathbf{D}_x + \mathbf{D}_{x+1} + \dots$$

$$\mathbf{S}_x = \mathbf{N}_x + \mathbf{N}_{x+1} + \dots$$

VALUES OF a_x , A_x , P_x , and of \overline{a}_x , \overline{A}_x , \overline{P}_x 2 Per cent.

\boldsymbol{x}	a_x	\mathbf{A}_{x}	\mathbf{P}_{x}	\overline{a}_x	$\overline{\mathbf{A}}_{m{x}}$	$\mathbf{\bar{P}}_{x}$	\boldsymbol{x}
10 11	25°955 25°759	·27 857 ·28 382	.01 091	26.452 26.256	·28 239 ·28 771	,01 008	10 11
12	25.558	'28 919	*01 089	26°055	'29 316	'01 125	12
18	25.352	'29 471	*01 118	25°849	'29 875	'01 156	13
14	25.140	'30 037	- *01 149	25°637	'30 450	'01 188	14
15	24 [.] 924	'30 618	'01 181	25'421	'31 036	'01 221	15
16	24 [.] 701		'01 214	25'198	'31 641	'01 256	16
17	24.474	'31 820	°01 249	24'971	'32 257	'01 292	17
18	24.545	'32 442		24'739	'32 886	'01 329	18
19	24'004	33 078	'01 323	24'501	'33 53 ²	'01 369	19
20	23'762	33 728	'01 362	24'259	'34 189	'01 409	2 0
21	23'514	34 390	'01 403	24'011	'34 861	'01 452	21
22	23'262	35 066	'01 445	23'759	'35 545	'01 496	22
28	23'005	'35 753	*01 489	23'502	'36 242	'01 542	23
24	22'744	'36 453	*01 535	23'241	'36 950	'01 590	24
25 26 27	22.478 22.208 21.933	'37 164 '37 887 '38 622	°01 583 °01 684	22.975 22.430	'37 672 '38 404 '39 150	°01 640 °01 691 °01 745	25 26 27
28	21'655	·39 367	'01 738	21.869	'39 905	.01 860	28
29	21'372	·40 124	'01 793	21.869	'40 672	.01 801	29
30 31	21'085 20'795	'40 890 '41 668	'01 851 '01 912	21.292	'41 451 '42 238	'01 921 '01 984	30 31 32
32 33 34	20 ' 500 20'202 19'898	'42 457 '43 256 '44 068	'01 975 '02 040 '02 109	20'997 20'395	'43 038 '43 846 '44 671	°02 050 °02 118 °02 190	83 84
35 36	19.280	·44 890 ·45 725	°02 180	20°088 19°777	'45 504 '46 348	°02 265 °02 344	35 36
37	18 [.] 964	·46 569	'02 333	19.140	'47 205	.02 426	37
38	18 [.] 643	·47 427	'02 414	19.140	'48 076	.02 512	38
39 40	18.318	.48 298 .49 180	°02 500	18.485	·48 957 ·49 853	°02 602	39 40
41	17.653	'50 076	·02 685	18·150	'50 761	°02 797	41
42	17.314	'50 984	·02 784	17·811	'51 681	°02 902	42
48	16.970	'51 905	·02 888	17·467	'52 614	°03 012	43
44 45	16.621	·52 837 ·53 782	°02 999	17·118 16·765	·53 561 ·54 519	.03 129 .03 252	44 45
46 47	15'910 15'549	'54 74 ¹ '55 708	°03 237	16 ·407 16 ·0 46	·55 490 ·56 469	°03 382	46 47
48	15°183	·56 689	°03 503	15.310	.57 462	°03 665	48
49	14°813	·57 678	°03 647	12.310	.58 466		49
50	14 ' 440	·58 676	*03 800	14 ' 937	.59 478	°03 982	50
51	14'064	·59 683	*03 962	14'560	.60 501	°04 155	51
52	13'685	·60 697	*04 133	14'181	.61 529	°04 339	52
53	13,304	·61 719	°04 315	13.800	·62 562	°04 534	53
54		·62 745	°04 508	13.416	·63 604	°04 741	54

OM

VALUES OF a_x , A_x , P_x , AND OF \overline{a}_x , \overline{A}_x , \overline{P}_x 2\frac{3}{4} \text{ cent.}

\boldsymbol{x}	a_x	\mathbf{A}_{x}	P_x	$ar{a}_x$	$\overline{\mathbf{A}}_{m{x}}$	$ar{ ext{P}_{x}}$	\boldsymbol{x}
55	12.235	·63 7 78	*04 712	13.031	·64 649	° 04 961	55
56	12'148	.64 810	04 929	12.644	65 699	·05 196	56
57	11.761	65 846	·05 160	12.57	.66 748	°05 446	57
58	11.374	·66 88 ₄	·05 405	11.870	67 798	05 712	58
59	10.987	67 920	·05 666	11.483	68 848	·o5 996	59
60	10.601	68 953	°05 944	11.006	·69 898	·06 2 99	60
61	10.516	69 983	06 240	10'711	'70 942	06 623	61
62	9.833	71 005	.06 554	10'328	71 982	'06 970	62
63	9.453	72 024	.06 890	9.948	73 012	·07 33 9	63
64	9.076	73 031	·07 248	9.271	'74 o36	07 736	64
65	8.703	74 032	· o 7 630	9'197	75 049	·08 160	65
66	8.334	75 019	·08 037	8·8 ₂ 8	75 049 76 052	·08 615	66
67	7:969	75 994	08 473	8.463	77 040	00 103	67
68	7.610	76 954	.08 937	8'104	78 015	09 627	68
69	7.257	77 900	'09 434	7.750	78 974	10 190	69
70	6.911	·78 826	09 965		79 916	10 795	70
70	6.211	79 737	10 532	7°403 7°063	·80 840	10 795	70
72	6.538	·80 629	10 532	6.730	·81 743	12 147	72
78	5.913	81 499	11 790	6.404	·82 627	12 903	78
74	5.296	·82 346	12 485	6.086	·83 488	13 717	74
i	5.287	.83 173			-		75
75 76	5°207 4'987		13 229	5.777	·84 327	14 597	76 76
76 77		·83 977 ·84 754	'14 026 '14 879	5.476	·85 143	°15 547	77
77 78	4.696 4.415	·85 507	14 879	5.182	·85 934 ·86 700	16 574 17 685	78
79	4 4 1 5	·86 236	15 768	4°903 4°630	·87 440	18 887	79
						· .	
80	3.881	·86 936	17 813	4.366	·88 155	'20 190	80 81
81	3.628	·87 613 ·88 263	.18 931	4'113	·88 843		82
82	3.386	·88 883	'20 126	3 .869	'89 503	23 132	83
83 84	3.123	·89 479	'21 401 '22 766	3.632	°90 138	'24 795 '26 6 01	84
	2.930		•	3'411	·90 746		
85	2.718	90 049	24 220	3'197	91 326	·28 563	85 86
86	2.216	90 590	25 766	2'994	91 879	30 692	87
87	2'323	91 105	27 413	2.799	*92 406	.33 010	88
88 89	2'141	91 593	.29 158	2.612	•92 906 •93 380	'35 527 '38 266	89
	1.969	92 056	'31 010	2*440		_	
90	1.805	92 493	32 978	2.274	93 831	41 263	90 91
91	1.652	92 903	35 033	2'118	94 253	'44 493	91 92
92	1.206	93 295	·37 236	1,060	'94 658	.48 067 .51 851	93
93 94	1.372	'93 653	'39 480 '41 92 3	1.833 1.833	'95 028	.26 131	94
	1'242	.93 998			95 390		
95	1'127	*94 308	44 333	1.281	95 712	60 550	95 96
96	1.013	94 613	'46 990	1'463	'96 o32	65 649	97
97	921	94 862	49 379	1.366	'96 294	'70 499 '76 058	98
98 99	·830	'95 111 '95 447	51 980 55 980	1°270 1°139	•96 556 •96 909	·85 o53	99
	.705						
100	.2252	95 861	·61 756	·981	'97 33 9	199 242	100 101
101 102	*324 *200	96 483	72 865	'746	97 975	2°38 234	101
102	.000	'97 324	'97 324	'415	.98 874	2 30 234	102

WHOLE-LIFE PARTICIPATING ASSURANCES

MALE LIVES

LOGARITHMS OF a_x , A_x , P_x , AND OF \bar{a}_x , \bar{A}_x , \bar{P}_x $2\frac{3}{4}$ per LOGARITHMS OF a_x , a_x , a_y ,

		,		,		,	
x	log a _x	$\log A_x$	$\log P_x$	$\log ar{a}_x$	$\log \overline{\mathbf{A}}_x$	$\log \overline{\mathrm{P}}_x$	x
10	1'430 64	ī·444 94	2°014 30	1'422 46	ĩ·450 85	2·028 41	10
11	427 47	'453 04	025 57	419 23	458 96	'039 73	11
12	424 20	.461 19	·036 99	41589	'467 10	'051 23	12
13	'420 81	'469 40	'048 59	412 44	'475 31	·o62 88	13
14	'417 31	'477 66	·060 35	408 87	483 59	·074 71	14
15	41369	485 97	.072 28	'405 19	491 87	·086 68	15
16	'409 96	494 32	·084 36	401 37	500 25	•o 98 89	16
17	406 10	.202 70	·096 60	397 44	.208 62	11120	17
18	402 12	.21111	°108 99	393 38	'517 01	123 62	18
19	·398 o2	519 54	121 52	389 18	525 46	136 28	19
20	393 78	527 99	134 21	·384 87	.533 89	149 00	20
21	'389 42	'536 43	147 01	. 380 41	542 34	·161 94	21
22	'384 93	'544 88	159 95	·375 ⁸ 3	.550 78	174 96	22
28	380 30	·553 31	173 01	371 10	7559 21	118811	23
24	375 55	.261 73	.189 18	366 25	.267 61	·201 37	24
25	370 66	'570 12	199 46	·361 26	·576 o2	214 76	25
26	365 63	.578 49	'212 86	·356 12	584 38	228 25	26
27	360 46	586 83	.226 37	350 83	592 73	241 90	27
28	355 16	.202 13	'239 97	'345 4I	601 03	255 61	28
29	333 20	603 40	253 69	339 83	609 30	269 47	29
30		61162	·267 51			209 47	30
	344 11	.619.80	207 51	334 09	617 54		31
81	338 35		'281 45	328 22	625 70	297 48	
82	332 44	627 95	295 51	·322 16	633 85	311 69	32
88	'326 37	.636 05	·309 68	·315 95	641 93	325 99	33
34	'320 12	644 12	'324 00	·309 52	·650 o3	*340 50	34
85	.313 68	.652 15	·33 ⁸ 47	302 94	.658 02	355 11	85
36	307 06	.660 12	'353 °9	·296 16	·666 o3	.369 87	3 6
87	'300 24	.668 10	367 86	289 17	673 99	*384 82	87
38	'293 21	·676 o3	·382 82	·281 94	681 93	399 99	38
39	·285 96	.683 93	'397 97	*274 50	.689 81	'415 31	39
40	278 48	691 79	'413 31	·266 82	697 69	. 430 86	40
41	.270 76	699 63	428 87	*258 88	'705 53	·446 66	41
42	262 78	707 43	444 65	1250 69	713 33	'462 64	42
43	254 55	715 21	·460 66	'242 22	721 10	478 88	43
44	'246 04	722 94	476 90	233 45	.728 85	495 39	44
45	237 25	730 64	493 39	'224 40	·736 55	512 14	45
46	228 16	738 31	510 15	215 03	744 21	529 19	46
47	218 76	735 32	527 16	205 37	751 81	·546 44	47
48	209 07	753 50	544 43	195 35	759 38	'564 04	48
49	199 02	753 50	'561 99	195 35	759 30	.281 93	49
50	188 65	.768 46	57981	174 26	.774 36	·600 o9	50
51	177 94	775 85	.207 91	163 16	.781 76	.618 60	51
52	166 87	783 17	61630	151 71	789 08	.637 37	52
53	155 44	790 42	634 98	139 88	.796 31	656 43	58
54	143 63	797 58	653 95	127 62	803 48	.675 86	54
-	-73 -3	',', 3-	-33 93	,	3	1	l
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WHOLE-LIFE PARTICIPATING ASSURANCES

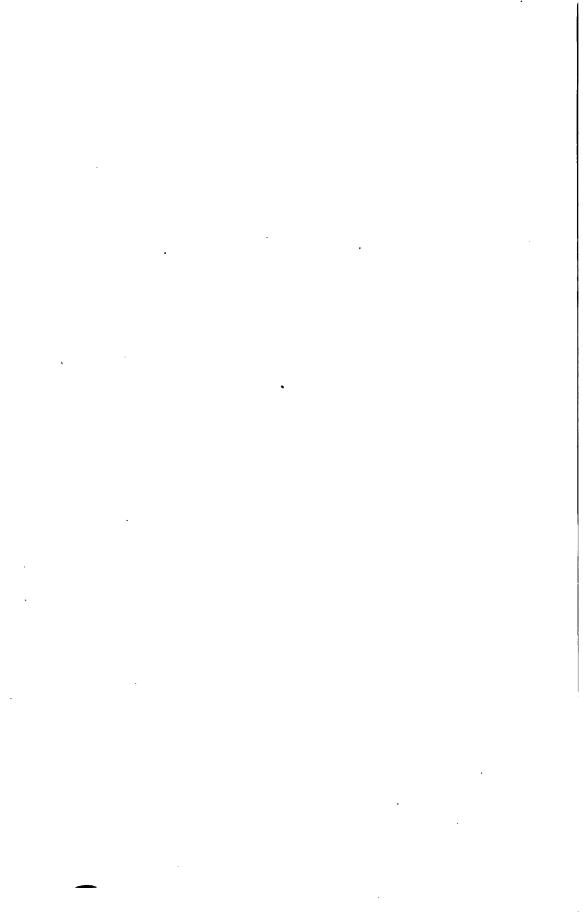
MALE LIVES

 O_{M}

LOGARITHMS OF a_x , A_x , P_x , and of \overline{a}_x , \overline{A}_x , \overline{P}_x

 $2^{rac{3}{4}}$ per

x	log a _x	$\log A_x$	$\log P_x$	$\log ar{a}_x$	$\log \overline{\mathbf{A}}_{m{x}}$	$\log \overline{\mathrm{P}}_{x}$	\boldsymbol{x}
55 56	1'131 45	ī·804 67 •811 64	2.673 22 .692 78	1.114 08	ī·810 56 ·817 56	2.695 58 .715 67	55 56
57	105 88	818 53	71265	·o88 38	`824 44	736 05	57
58	092 50	.825 32	732 82	·074 45	831 22	756 77	58
59	078 71	·832 oo	753 29	.060 0 6	.837 89	777 84	59
1							
60	'064 48	.838 55	774 07	·045 <u>1</u> 7	·844 46	'799 30	60
61	·049 83	·844 99	795 16	·029 83	·850 90	821 07	61
62	·034 76	851 29	.816 23	° 014 02	.857 22	·843 20	62
63	'019 25	·857 48	'838 23	0'997 74	·863 3 9	·865 6 6	63
64	'003 29	·863 51	·860 22	980 94	·869 44	·888 50	64
65	0.986 90	1869 42	·882 52	963 65	.875 34	'911 70	65
		909 42	1002 32		881 11		
66	970 06	'875 17	'905 11	945 85		935 26	66
67	952 76	·88o 78	928 02	927 53	.886 72	.959 18	67
68	'935 °3	·886 23	951 20	·908 69	·892 18	_ 983 49	68
69	916 84	·891 5 4	'974 70	·889 32	·89 7 48	1.008 12	69
70	.898 21	·896 67	998 46	·869 43	902 63	'033 22	70
71	879 13	901 66	1.033 23	848 97	907 63	'058 65	71
72	859 61	906 49	·046 88	827 99	91245	'084 47	72
78	·839 65	911 15	071 50	·806 44	917 12	110 69	73
74	819 26	915 64	096 38	784 36	.921 62	137 26	74
					1	I	
75	798 45	.919 98	.151 23	761 71	925 97	164 26	75
76	777 23	924 16	146 93	·738 50	.030 12	191 65	76
77	755 60	·928 16	172 56	714 73	'934 17	'219 43	77
78	733 58	932 00	198 42	·690 42	·938 o2	.247 61	78
79	711 20	·935 69	'224 49	.665 55	'941 71	.276 16	79
80	·688 47	939 20	*250 73	·640 II	'945 25	305 14	80
81	665 39	942 57	277 18	614 13	948 62	'334 49	81
82	642 03	945 78	303 75	.587 62	951 84	364 21	82
83	618 38	948 82	330 44	560 54	954 91	394 36	83
84	594 44	951 72	357 28	532 92	957 83	424 90	84
					1		_
85	.570 31	954 48	'384 17	·504 80	960 59	'455 80	85
86	.546 04	957 08	411 04	476 19	963 22	'487 03	86
87	.21 28	959 54	'437 96	'447 °5	965 70	.518 65	87
88	'497 10	.961 86	'464 76	417 49	968 04	.220 26	88
89	472 55	'964 05	'491 50	[.] 387 44	970 25	·582 81	89
90	·447 88	.066 11	'518 23	. 356 7 9	972 35	615 56	90
91	423 55	·968 o3	.544 48	'326 oı	' 974 30	·648 2 9	91
92	398 90	·969 86	.570 96	'294 31	·976 16	681 85	92
98	375 14	971 52	.596 38	°263 og	977 85	71476	93
94	350 67	'973 12	622 45	1230 30	979 50	'749 20	94
95	.327 82	974 55	646 73	198 85	·98o 97	.782 11	95
96	303 94	974 33	672 01	165 19	982 42	817 23	96
97	283 55	977 09	693 54	135 42	983 60	·848 18	97
98	262 39	977 09	715 84	103 63	984 78	.881 14	98
99	231 73	970 23	715 04	·056 68	986 36	929 69	99
ì	1		1				
100	.190 96	981 64	'790 68	1.001 20	988 29	'996 70	100
101	121 93	'984 45	·862 52	·873 o3	991 12	0.118 10	101
102	.000 00	1988 22	988 22	.618 08	·995 o8	.377 00	102
		·	i				



$\mathbf{O}^{\mathbf{M}}$

3 PER CENT.

CONSTANTS.

Constant	Number	Logarithm
i	·03	2·477 121 3
(1+i)	1.03	0.015 834 5
(1+i)	1.014 889 2	0.006 418 6
$(1+i)^{\frac{1}{4}}$	1.002 412 1	0.003 500 3
v	·9 70 873 8	ī·987 162 8
v 1	·985 329 3	ī·993 581 4
$v^{\frac{1}{4}}$	'992 637 5	ī·996 790 7
ď	·029 126 2	2·464 284 o
δ	·029 558 8	2·470 686 8

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$\mathbf{O}_{\mathbf{M}}$

3 PER CENT.

CONSTANTS.

Constant	Number	Logarithm		
i $(1+i)$ $(1+i)^{\frac{1}{2}}$ $(1+i)^{\frac{1}{2}}$ v $v^{\frac{1}{2}}$ $v^{\frac{1}{2}}$ d	'03 1'03 1'014 889 2 1'007 417 1 '970 873 8 '985 329 3 '992 637 5 '029 126 2	2·477 121 3 0·012 837 2 0·006 418 6 0·003 209 3 1·987 162 8 1·993 581 4 1·996 790 7 2·464 284 0		
δ	029 558 8	2·470 686 8		

 O_{M}

COMMUTATION TABLE

PER CENT.

x	\mathbf{D}_{x}	\mathbf{N}_x	S_x	\mathbf{C}_{x}	\mathbf{M}_{x}	R_x	\boldsymbol{x}
10 11 12 13 14 15 16 17	74 409 71 998 69 663 67 400 65 208 63 085 61 027 59 032	1 910 061 1 835 652 1 763 654 1 693 991 1 626 591 1 561 383 1 498 298 1 437 271	39 705 377 37 795 316 35 959 664 34 196 010 32 502 019 30 875 428 29 314 045 27 815 747	244.18 238.47 233.57 228.75 224.01 220.60 217.20 214.99	18 776·82 18 532·64 18 294·17 18 060·60 17 831·85 17 607·84 17 387·24	753 594'90 734 818'08 716 285'44 697 991'27 679 930'67 662 098'82 644 490'98 627 103'74	10 11 12 13 14 15 16 17
18 19 20 21 22 23 24	57 098 55 223 53 404 51 639 49 926 48 263 46 648	1 378 239 1 321 141 1 265 918 1 212 514 1 160 875 1 110 949 1 062 686	26 378 476 25 000 237 23 679 096 22 413 178 21 200 664 20 039 789 18 928 840	212.15 210.40 209.64 208.76 208.76 209.67	16 955'05 16 742'90 16 532'50 16 322'86 16 114'10 15 905'34 15 696'27	609 933.70 592 978.65 576 235.75 559 703.25 543 380.39 527 266.29 511 360.95	18 19 20 21 22 23 24
25 26 27 28 29 30 31	45 080 43 556 42 076 40 637 39 239 37 879 36 557	1 016 038 970 958 927 402 885 326 844 689 805 450 767 571	17 866 154 16 850 116 15 879 158 14 951 756 14 066 430 13 221 741 12 416 291	210.52 211.59 213.73 214.72 216.71 218.79	15 486 60 15 276 08 15 064 49 14 850 76 14 636 04 14 419 33 14 200 54	495 664.68 480 178.08 464 902.00 449 837.51 434 986.75 420 350.71 405 931.38	25 26 27 28 29 30 31
32 33 34 35 36 37 38	35 272 34 023 32 808 31 627 30 480 29 364	731 014 695 742 661 719 628 911 597 284 566 804	11 648 720 10 917 706 10 221 964 9 560 245 8 931 334 8 334 050	222.07 223.65 224.96 226.69 228.12 229.29	13 980 35 13 758 28 13 758 28 13 534 63 13 309 67 13 082 98 12 854 86	391 730·84 377 750·49 363 992·21 350 457·58 337 147·91 324 064·93	32 33 34 35 36 37
39 40 41 42 43 44	28 279 27 225 26 201 25 205 24 237 23 295 22 379	537 440 509 161 481 936 455 735 430 530 406 293 382 998	7 767 246 7 229 806 6 720 645 6 238 709 5 782 974 5 352 444 4 946 151	230°19 231°76 232°75 234°66 235°66 236°96 238°79	12 625.57 12 395.38 12 163.62 11 930.87 11 696.81 11 461.15 11 224.19	311 210.07 298 584.50 286 189.12 274 025.50 262 094.63 250 397.82 238 936.67	38 39 40 41 42 43 44
45 46 47 48 49 50	21 489 20 622 19 779 18 958 18 158	360 619 339 130 318 508 298 729 279 771 261 613	4 563 153 4 202 534 3 863 404 3 544 896 3 246 167 2 966 396	240·56 242·78 245·14 247·64 250·69 253·80	10 985.40 10 744.84 10 502.06 10 256.92 10 009.28 9 758.59	227 712'48 216 727'08 205 982'24 195 480'18 185 223'26 175 213'98	45 46 47 48 49 50
51 52 53 54	16 618 15 877 15 154 14 448	244 235 227 617 211 740 196 586	2 704 783 2 460 548 2 232 931 2 021 191	257'37 260'94 264'69 268'98	9 504'79 9 247'42 8 986'48 8 721'79	165 455.39 155 950.60 146 703.18 137 716.70	51 52 53 54

 $N_x = D_x + D_{x+1} + \dots$ $S_x = N_x + N_{x+1} + \dots$

Om

COMMUTATION TABLE

3 PER

x	\mathbf{D}_{x}	N_x	S_x	\mathbf{C}_{x}	$\mathbf{M}_{m{x}}$	\mathbf{R}_{x}	\boldsymbol{x}
57	13 758. 13 084. 13 425.	182 138.	1 642 467° 1 474 087°	277.47 281.99	8 452.81 8 179.63 7 902.16	128 994'91 120 542'10 112 362'47	55 56 57
58 59	11 152'	142 871'	1 318 791.	286·54 291·09	7 620 ⁻ 17 7 333 ⁻⁶ 3	96 840'14	58 59
60 61 62 63 64	10 536. 9 933.7 9 344.8 8 769.3 8 207.1	119 938' 109 401'9 99 468'2 81 354'1	815 490.2	303'36	7 042·54 6 747·24 6 447·74 6 144·38 5 837·64	89 506·51 82 463·97 75 716·73 69 268·99 63 124·61	60 61 62 63 64
65 66 67 68	7 658.4 7 123.3 6 602.5 6 096.1	73 147.0 65 488.6 58 365.3 51 762.8	544 544 5 471 397 5 405 908 9 347 543 6	312 [.] 02 313 [.] 42 314 [.] 07 313 [.] 64	5 527·98 5 215·96 4 902·54 4 588·47	57 286.97 51 758.99 46 543.03 41 640.49	65 66 67 68
69 70 71 72 73	5 604.9 5 129.6 4 671.0 4 230.1 3 807.9	45 666.7 40 061.8 34 932.2 30 261.2 26 031.1	250 114'1 210 052'3 175 120'1 144 858'9	309°12 304°88 299°01 291°76	4 274 ^{.8} 3 3 962 [.] 75 3 653 [.] 63 3 34 ⁸ [.] 75 3 049 [.] 74	37 052 02 32 777 19 28 814 44 25 160 81 21 812 06	69 70 71 72 78
74 75 76 77 78 79	3 405'3 3 023'4 2 663'4 2 326'2 2 012'7	22 223 ² 18 817 ⁹ 15 794 ⁵ 13 131 ¹ 10 804 ⁹ 8 792 ²	77 786.7 61 992.2 48 861.1	282.60 271.94 259.71 245.76 230.47	2 757 98 2 475 38 2 203 44 1 943 73 1 697 97	18 762·32 16 004·34 13 528·96 11 325·52 9 381·79 7 683·82	74 75 76 77 78 79
80 81 82 83 84	1 723.6 1 459.5 1 220.8 1 007.4 819.26 655.62	7 068.6 5 609.1 4 388.3 3 380.87 2 561.61	38 056·2 29 264·0 22 195·4 16 586·3 12 197·95 8 817·08		1 467·50 1 253·61 1 057·44 879·65 720·80 581·02	6 216·32 4 962·71 3 905·27 3 025·62 2 304·82	80 81 82 83 84
85 86 87 88 89	515.50 397.54 300.22 221.52 159.39	1 905'99 1 390'49 992'95 692'73 471'21	6 255.47 4 349.48 2 958.99 1 966.04 1 273.31	102°95 85°734 69°958 55°676 43°146	459'99 357'037 271'303 201'345 145'669	1 723.80 1 263.812 906.775 635.472 434.127	85 86 87 88 89
90 91 92 93 94	111.60 75.766 49.831 31.549	311.82 200.215 124.449 74.618	802°10 490°279 290°064 165°615	32.588 23.729 16.830 11.370	102 [.] 523 69 [.] 935 46 [.] 206 29 [.] 376	288·458 185·935 116·000 69·794	90 91 92 93 94
95 .93 .97 .98 .99	11.220 6.266 3 3.297 7 1.656 1	6·322 5 3·024 8	11.230 4 5.504 9	1.245 6 .803 9	10.526 1 5.899 6 3.113 6 1.268 0	22'412 5 11'886 4 5'986 8 2'873 2	95 96 97 98
100 101 102	·803 9 ·364 2 ·151 6 ·049 0	'564 8 '200 6	·814 4 ·249 6	.508 I	·347 8 ·145 7	.193 3	100 101

 $\mathbf{N}_{x} = \mathbf{D}_{x} + \mathbf{D}_{x+1} + \dots$ $\mathbf{S}_{x} = \mathbf{N}_{x} + \mathbf{N}_{x+1} + \dots$

OM LOGARITHMS AND CO-LOGARITHMS OF D_x , N_x , C_x , M_x 3 per cent.

x	$\log \mathcal{D}_{x}$	$\log N_x$	$\log \mathbf{C}_x$	$\log M_x$	$\operatorname{col} \mathbf{D}_x$	$\operatorname{col} \mathbf{N}_x$	$\operatorname{col} \mathbf{C}_x$	$\operatorname{col} \mathbf{M}_x$	\boldsymbol{x}
10	4 [.] 871 6 3	6 [.] 281 05	2.387 21	4.273 62	<u>5</u> ·128 37	7.71895	3.612 29	<u>5</u> ·726 38	10
11	.857 32	.263 79	377 43	267 93	142 68	736 21	622 57	732 07	11
12	843 00	246 41	368 41	262 31	157 00	753 59	631 59	737 69	12
13	·828 66	228 91	359 35	256 73	171 34	771 09	640 65	743 27	13
14	814 30	211 28	350 27	251 19	185 70	788 72	649 73	748 81	14
15	799 92	193 51	.343 61	.245 70	·200 o8	·8o6 49	.656 39	754 30	15
16	785 52	175 60	·336 86	'240 23	·214 48	824 40	'663 14	759 77	16
17	'771 09	157 54	'332 41	234 77	.228 91	842 46	667 59	'765 23	17
18	756 62	139 32	326 64	229 30	'243 38	·86o 68	673 36	770 70	18
19	742 12	120 95	323 04	223 83	.257 88	.879 05	676 96	776 17	19
20	727 57	102 41	321 48	218 34	'272 43	·8 97 59	678 52	·781 66	20
21	71297	083 69	319 64	212 79	·287 o3	.01631	·68o 36	'787 21	21
22	698 33	'064 78	'319 64	'207 20	·301 67	935 22	·68o 36	792 80	22
23	.683 61	'045 69	'320 30	201 54	.316 39	'954 31	679 70	'798 46	23
24	.668 83	026 40	321 53	195 79	331 17	'973 60	678 47	·804 21	24
25	653 98	.006 91	323 29	189 95	·346 o2	-993 09	676 71	·810 05	25
26	639 05	5.987 20	325 49	184 01	360 95	6.013 80	674 51	815 99	26
27	624 04	967 27	329 87	177 95	375 96	'032 73	670 13	822 05	27
28	608 92	'947 10	331 87	171 75	373 96	052 90	668 13	828 25	28
29	593 71	926 70	335 87	165 42	406 29	.073 30	664 13	834 58	29
30	578 40	906 04	340 03	158 94	421 60	.093 96	659 97	.841 06	30
31	562 97	885 12	342 79	152 30	437 03	114 88	657 21	847 70	31
32		863 92	342 79			114 08		854 48	32
33	547 43	842 45		145 52	'452 57 '468 23		653 51	861 44	33
34 34	531 77	820 67	349 58	138 56	484 02	157 55	650 42	868 56	34
J 3	.215 98	1	'352 10	131 44	404 02	179 33	.647 90	1	
35	.200 06	798 59	355 43	124 17	'499 94	'201 41	'644 57	875 83	35
36	'484 01	776 18	358 17	11670	.212 99	.223 82	641 83	883 30	36
37	'467 81	753 43	360 38	109 07	.232 19	246 57	639 62	890 93	37
38	451 47	730 33	362 08	101 25	.548 53	269 67	637 92	898 75	38
39	'434 97	.706 85	.362 03	'093 26	.262 03	'293 15	634 97	'906 74	39
40	418 31	682 99	366 88	·085 o6	.281 69	.317 01	633 12	'914 94	40
41	401 48	658 71	369 32	076 67	598 52	341 29	630 68	923 33	41
42	384 47	634 00	372 28	068 07	615 53	366 00	627 72	931 93	42
43	367 26	608 84	374 68	059 23	632 74	391 16	625 32	940 77	43
44	349 85	.583 20	378 01	.020 12	650 15	416 80	.621 99		44
45	332 21	.557 05	381 23	040 82	.667 79	442 95	618 77	.959 18	45
46	'314 34	·530 37	385 21	'031 20	685 66	469 63	614 79	968 80	46
47	296 20	503 12	'389 42		703 80	'496 88	610 58		47
48	277 79	475 28	393 82	'011 02	722 21	524 72	.606 18		48
49	259 07	446 80	399 14		740 93	553 20	·600 86		49
50	'240 01	417 66	404 49	3.989 39	759 99	.582 34	.295 21		50
51	220 59	387 81	410 56	977 94	779 41	612 19	'589 44		51
52	'200 77	357 20	416 54	966 02	799 23	642 80	583 46		52
53	180 52	325 80	422 73		819 48	674 20	577 27		53
54	159 79	293 55	429 72		·840 21	706 45	570 28		54
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 $\mathbf{N}_{x} = \mathbf{D}_{x} + \mathbf{D}_{x+1} + \dots$ $\mathbf{S}_{x} = \mathbf{N}_{x} + \mathbf{N}_{x+1} + \dots$

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LOGARITHMS AND CO-LOGARITHMS OF D_x , N_x , C_x , M_x $\mathbf{3}_{cent.}^{per}$

\boldsymbol{x}	$\log \mathcal{D}_{x}$	$\log N_x$	$\log \mathrm{C}_x$	$\log M_x$	$\operatorname{col} \operatorname{D}_{\boldsymbol{x}}$	$\operatorname{col} \mathbf{N}_x$	$\operatorname{col} \mathbf{C}_x$	$\operatorname{col}\mathbf{M}_x$	x
55	4.138 22	5.260 40	2.436 45	3.927 00	5·861 45	6.739 60	3.263 22	4.043 00	55
56	11674	.226 29	'443 21	'912 73	·883 26	'773 71	.556 79	'087 27	56
57	'094 31	.191 19	'450 23	·897 74	905 69	808 84	'549 77	102 26	57
58	'071 20	154 94	'457 18	·881 96	·928 80	845 06	'542 82	118 04	58
59	'047 35	117 57	'464 03	*865 32	952 65	'882 43	535 97	134 68	59
60	.022 67	.078 96	'470 27	.847 73	977 33	921 04	'529 73	152 27	60
61	3.002 11	.039 03	476 40	829 12	4.002 89	960 97	523 60	170 88	61
62	970 57	4.997 68	481 96	.809 41	'029 43	2.005 35	518 04	190 59	62
63	942 97	'954 84	486 77	788 48	057 03	'045 16	513 23	211 52	63
64	914 19	910 38	490 89	.766 23	085 81	089 62	509 11	233 77	64
65	.884 14	.864 20	494 18	742 56	115 86	135 80	.505 82		
66	852 68	816 17	494 10		115 30	135 83	503 88	'257 44 '282 67	65 66
67	81971	766 15	497 03	690 42	180 29	233 85	502 97	309 58	67
68	785 05		497 03	661 67		285 98		338 33	68
69	748 57	659 60	494 27	630 92	°214 95	340 40	503 57	369 08	69
	i -		1			1 -	505 73		1
70 71	710 08	602 73	'490 13	597 99	.289 92	397 27	.509 87	'402 01	70
72	669 41	543 23	484 13	562 72	330 59	456 77	.515 87	437 28	71
73	626 35	'480 89	475 68	524 88	373 65	.219 11	524 32	475 12	72
74 74	·58o 69	415 49	465 02	484 26	419 31	584 51	534 98	515 74	73
	.232 12	'346 81	'451 18	'440 59	·467 85	653 19	.548 82	'559 41	74
75	'480 50	274 57	434 47	· 3 93 64	.219 20	725 43	.265 53	606 36	75
76	425 44	198 51	414 48	'343 10	574 56	801 49	.282 25	.656 90	76
77	'366 64	.118 30	390 51	288 63	633 36	881 70	609 49	711 37	77
78	303 77	033 62	362 62	229 92	1696 23	_ 966 38	637 38	770 08	78
79	·236 43	3.944 10	.330 19	.166 24	·763 57	4.022 30	.669 81	·833 43	79
80	164 19	'849 33	292 62	'098 15	.835 81	150 67	'707 38	.901 82	80
81	'0 86 64	'748 89	'249 89	'024 25	.913 36	251 11	.420 11	_'975 75	81
82	.003 22	'642 30	200 98	2'944 31	.996 78	357 70		3.052 69	82
83	2.013 45	.250 03	145 43	857 81	3.086 28	470 97	·854 57	142 19	83
84	.816 62	.408 21	082 90	'764 19	.183 32	*591 49	917 10	'235 81	84
85	712 22	.580 13	'012 61	662 75	·287 7 8	'71988	987 39	337 25	85
86	.299 38	143 17	1,033 12	'552 71	·400 62	·856 83	2.066 82	447 29	86
87	477 44	2.996 93	·844 84	'433 45	.22 56	3.003 07	155 16	.266 22	87
88	'345 41	·840 56	745 67	303 94	654 59	159 44	'254 33	.696 06	88
89	'202 47	673 21	634 94	.163 36	797 53	326 79	365 06	836 64	89
90	·o47 68	'493 90	'513 05	·010 82	952 32	.206 10	·486 95	.989 18	90
91	1.879 48	'301 50	375 28	1.844 69	2.150 25	'698 50	624 72	2.122 31	91
92	697 50	·094 99	226 09	.664 70	302 50	-905 01	'773 91	'335 30	92
93	498 99	1.872 84	°55 75	'467 99	.201 01	2.127 16	944 25	'532 01	93
94	·284 66	'634 16	0.873 89	255 41	715 34	365 84	1.159 11	744 59	94
95	049 98	376 74	'665 25	'022 27	950 02	623 26	334 75	977 73	95
96	0.797 01	099 98	'444 99	l ^'	1.505 99	900 02	'555 OI	1.550 18	96
97	.218 22	0.800 89	.189 11	493 26	·481 78		1810 89	506 74	97
98	219 07	'480 70	1.002 51	195 35	.780 93	.219 30	0.094 49	804 65	98
99	1.002 51	.136 31	619 37	1.883 12	0.094 49	863 69	·380 63		99
100	.261 38	1.751 89	305 50	541 33	438 62	0'248 11	1694 50	458 67	100
101	180 56	302 33	2.991 63		.819 44	697 67	1.008 34		
102	2.690 60	2.690 60	677 77		1.309 40	1.309 40		1.322 23	102
ш	1		TAT.	_ D		1		1	<u> </u>

 $N_x = D_x + D_{x+1} + \dots$ $S_x = N_x + N_{x+1} + \dots$

VALUES OF a_x , A_x , P_x , and of \overline{a}_x , \overline{A}_x , \overline{P}_x 3 PER CENT.

\boldsymbol{x}	a_x	\mathbf{A}_{x}	\mathbf{P}_{x}	$ar{a}_x$	$\overline{\mathbf{A}}_{m{x}}$	$\overline{\mathrm{P}}_{x}$	x
10	24.669	25 234	00 983	25.166	25 612	810 10.	10
11	24.496	25 740	01010	24.993	'26 124	'01 045	11
12	24.317	26 261	·01 037	24.814	26 653	°01 074	12 13
13	24.133	·26 796	.01 066	24.630	27 197	'01 104	14
14	23.945	'27 346	.01 006	24'442	·27 752	'01 135	1
15	23.751	27 911	'or 128	24.248	28 326	.01 168	15
16	23.22	28 491	.01 190	24.049	28 914	'OI 2O2	16 17
17	23'347	29 086	·01 195	23.844	29 520	'01 238	18
18	23.138	29 695	01 230	23.635	.30 138	'01 275	19
19	22.924	.30 319	'01 267	23.421	30 770	·01 314	
20	22.705	·3o 958	·01 306	23.505	31 418	°01 354	20
21	22.481	.31 910	°01 346	22.978	·32 080	·01 396	21
22	22.52	32 275	·01 388	22.749	'32 757	'01 440	22
23	55.010	32 956	°01 432	22.219	' 33 445	°01 485	23
24	21.781	·33 648	°01 477	22.278	'34 149	·01 533	24
25	21.239	³ 4 353	·01 524	22.036	·34 864	·01 582	25
26	51,505	35 072	°01 573	21.489	°35 594	·01 634	26
27	21.041	.35 802	°01 624	21.238	·36 3 3 6	·01 687	27
28	20.786	·36 545	°01 677	21.583	.37 090	·01 743	28
29	20.22	'37 300	·01 733	21'024	.37 856	.01 801	29
30	20.564	·38 o66	·01 790	20'761	.38 633	.01 8Q1	30
31	19.996	·38 845	·01 850	20'493	39 425	'01 924	31
32	19.725	· 3 9 636	OI 912	20.555	·40 226	.01 989	32
33	19.449	'40 438	°01 977	19.946	41 042	.02 028	33
34	19.169	'41 253	°02 045	19.666	·41 870	'02 129	34
35	18.882	·42 o83	'02 116	19.382	42 709	'02 204	35
36	18.296	42 923	·02 190	19.093	43 563	.02 282	36
37	18.303	. 43 778	·o2 268	18.800	44 429	·02 363	37
38	18.004	'44 6 46	'02 349	18.201	45 313	·02 4 49	38
39	17.702	45 529	·02 434	18.199	·46 2 06	·02 53 9	39
40	17:394	.46 425	'02 524	17:891	47 116	·02 634	40
41	17:081	'47 336	02 618	17.578	'48 042	'02 733	41
42	16.764	'48 261	·02 717	17.261	48 979	02 838	42
43	16,441	'49 201	·02 821	16.938	'49 933	·02 948	43
44	16.114	.20 123	.05 931	16.611	.20 900	·03 o64	44
45	15.782	'51 122	·03 046	16.2 7 9	·51 881	.03 184	45
46	15.445	.2 103	·03 168	15.942	.52 877	'03 317	46
47	15.104	·53 0 97	·03 297	15.600	.53 888	°03 454	47
48	14.757	·54 104	°03 434	15.523	.24 914	·03 600	48
49	14'408	.22 123	·o3 578	14'904	.55 946	°03 754	49
50	14.054	·56 154	03 730	14.220	·56 992	.03 917	50
51	13.697	·57 194	03 892	14.193	.58 047	04 090	51
52	13.336	·58 244	.04 063	13.832	'59 114	04 274	52
53	12.973	.20 302	'04 244	13'469	60 187	·04 469	58
54	12.607	. 6o 368	'04 437	13.103	61 269	· 0 4 676	54
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values of a_x , A_x , P_x , and of \overline{a}_x , \overline{A}_x , \overline{P}_x

3 PER

\boldsymbol{x}	a_x	\mathbf{A}_{x}	\mathbf{P}_{x}	$ar{a}_x$	$\overline{\mathbf{A}}_{x}$	$\overline{\mathrm{P}}_{x}$	\boldsymbol{x}
55	12.530	·61 440	°04 641	12.735	·62 357	·o4 896	55
56	11.869	62 516	04 858	12.362	63 451	'05 131	56
57	11'498	63 596	05 088	11.004	64 547	05 382	57
58	11'127	64 679	·o5 334	11.622	65 647	.05 648	58
59	10.755	65 761	·o5 594	11.520	.66 746	·o5 933	59
60	10.384	·66 8 ₄₄	05 872	10.879	67 843	·06 236	60
61	10,013	67 922	06 167	10.208	·68 940	·06 561	61
62	9.644	.68 999	06 482	10,130	70 030	·o6 907	62
63	9.277	.70 066	.06 818	9.772	71 116	07 278	68
64	8.913	71 128	.07 175	9.407	72 194	.07 674	64
65	8.221	.72 181	.07 557	9'045	.73 263	.08 099	65
66	8.194	73 223	07 965	8.687	73 203	.08 222	66
67	7.840	74 252	.08 400	8.333	75 367	'09 044	67
68	7.491	75 270	·o8 864	7.984	76 399	. 09 5 69	68
69	7.148	.76 269	·09 361	7.640	77 416	10 132	69
70	6.810	77 252	09 892	7:302	.78 415	10 738	70
71	6.479	78 219	10 459	6.971	79 396	10 730	71
72	6.124	79 164	.11 099	6.645	·80 357	12 092	72
73	5.836	·8o o88	11716	6.352	81 298	12 849	73
74	5.26	·8o 992	12 410	6.016	.82 216	13 665	74
75	5'224	.81 873	13 154	5.4	.83 110	14 545	75
76	4'930	82 729	13 951	5'419	.83 981	14 545	76
77	4.645	83 558	13 931	5'133	·84 827	16 525	77
78	4.368	'84 363	15714	4·856	85 646	17 637	78
79	4.101	85 141	.16 91.	4.288	86 439	18 842	79
80	3 ^{.8} 43	85 893	17 735	_	·87 204	l	80
81	3.243	.86 618	18 852	4 ' 329 4'079	87 204	°20 145	81
82	3.356	.87 315	20 045	3.839	·88 651	'23 O9 I	82
83	3.127	87 981	'21 320	3.600	.89 333	² 3 754	83
84	2.007	88 622	22 682	3.388	·89 986	26 561	84
		ſ			l	-	
85 86	2.697	·89 234 ·89 811	°24 134 °25 677	3.177	,00 610	28 524	85
87	2·498 2·307	90 367		2°975 2°783	91 205	30 654	86 87
88	2,154	90 307	·27 322 ·29 066	2 703 2 703	'91 773 '92 312	'32 975 '35 492	88
89	1.956	91 388	30 914	2'428	92 312	35 492	89
90	1'794	91 863	32 879		1 -		
91	1 643			2.100 3.100	'93 311 '93 766	'41 231	90
92	I'497	'92 302 '92 726	'34 929 '37 129	1,061	93 700	'44 462 '48 039	91 92
93	1,362	92 720	37 129	1.826	'94 604	·51 824	93
94	1.536	93 487	'41 807	1.693	'94 995	'56 104	94
95	1,155	93 457			l .	1 -	95
96	1,000	'94 148	'44 211 '46 864	1.272 1.428	95 344	65 627	96
97	'917	94 145	40 004 49 246	1,365	'95 690 '95 975	70 476	97
98	·826	94 685	51 838	1.366	95 975	76 027	98
99	.703	95 047	55 826	1,134	96 640	85 010	99
100	.221	95 488	61 580			.99 181	100
101	324	95 488	72 632	.74 6	'97 106 '97 796	1,31 181	101
102	°000	90 139	97 087	415	97 790	2,38 113	102
		9,007	97007	4-5	90774	2 30 113	102

 O_{M}

logarithms of a_x , A_x , P_x , and of \bar{a}_x , \bar{A}_x , \bar{P}_x

3 PER

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x	$\log a_x$	$\log A_x$	$\log P_x$	\logar{a}_x	$\log \overline{\mathbf{A}}_{m{x}}$	$\log \overline{\overline{P}}_x$	\boldsymbol{x}
10 11	1°409 42 °406 47	ī'401 99 '410 61	3'992 57 2'004 14	1'400 81 '397 82	ī·408 44 ·417 04	2'007 62 '019 20	10 11
12	403 41	41931	.012 00	394 70	425 75	-	
13	400 25	428 07	027 82			'031 04	12
14				391 46	434 52	.043 05	13
B	'396 98	'436 89	.039 91	'388 14	'443 29	.052 12	14
15	393 59	445 78	·052 19	·384 68	452 19	'067 52	15
16	·390 o8	454 71	·o64 63	.381 10	. 461 11	.080 01	16
17	'386 45	·463 68	'077 23	377 38	470 12	'092 72	17
18	382 70	472 68	089 98	373 56	479 11	105 54	18
19	'378 83	48171	102 88	·369 61	488 13	118 53	19
20	·374 84	.490 77	115 93	·365 53	'497 18	131 65	20
21	370 72	499 82	129 10	.361 31	.506 23	144 92	21
22	366 45	508 87	142 42	356 96	515 30	158 33	22
23	362 08	517 93	155 85	352 49	524 33	171 84	23
24		526 96	.169 39				
	³⁵⁷ 57	•		·347 88	·53 3 38	.182 21	24
25	'35 ² 93	535 97	183 04	'343 13	.542 38	199 23	25
26	'348 15	·544 96	.19981	·338 24	.221 38	213 15	26
27	'34 3 23	.223 91	'21068	'333 21	·560 34	'227 14	27
28	·338 18	·562 83	224 65	·328 o3	·569 26	'241 22	28
29	332 99	'571 71	.238 72	322 72	.578 13	·255 42	29
30	'327 64	·58o 54	·252 90	317 25	·586 96	·269 70	30
31	322 15	.589 33	267 18	.311 61	595 77	·284 16	31
32	316 49	.598 09	·28ī 6o	305 82	604 51	298 68	32
33	310 68	606 79	·296 II	299 86	613 23	313 38	33
34	304 69	615 46	310 77	293 72	621 90	313 30	34
35	298 53	624 11	325 58	·287 40	630 52	'343 11	35
36	292 17	632 69	323 30	280 87	639 12	358 24	36
37	285 62	641 26					
	278 86		355 64	'274 16	647 67	373 52	37
38		649 78	370 92	'267 20	656 22	389 02	38
39	271 88	·658 29	·386 41	260 05	·664 70	'404 65	39
40	·264 68	666 75	'402 07	.252 63	673 17	420 53	40
41	257 23	675 19	417 96	'244 97	.681 65	'436 64	41
42	'249 53	.683 60	'434 07	'237 07	.690 01	452 94	42
43	241 58	691 97	'450 39	·228 86	698 39	'469 53	43
44	·233 35	700 30	466 95	1220 40	706 72	·486 32	44
45	.224 84	.708 61	.483 77	.211 63	71501	.503 38	45
46	216 03	716 86	500 83	202 54	723 27	520 73	46
47	206 92	725 07	.218 12	193 12	731 49	538 37	47
48	197 49	723 27	535 74	183 36	731 49	556 33	48
49	187 73	733 23	535 74 553 60	103 30	739 00	574 46	49
	1	1	1	162 86	1		50
50	177 65	'749 38	·571 73		755 81	.292 95 .677 70	
51	167 22	757 35	.590 13	152 07	763 78	611 70	51
52	156 43	.765 25	608 82	140 89	771 69	630 80	52
53	145 28	773 97	627 79	129 34	'779 50	.650 17	53
54	.133 76	.480 81	·647 o5	117 37	.787 24	.669 87	54
<u></u>		<u> </u>		L		<u> </u>	

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LOGARITHMS OF a_x , A_x , P_x , and of \overline{a}_x , \overline{A}_x , \overline{P}_x

3 PER

x	$\log \mathbf{a}_x$	$\log A_x$	$\log P_x$	\logar{a}_x	$\log \overline{\mathrm{A}}_x$	$\log \overline{\mathrm{P}}_x$	\boldsymbol{x}
55 56	1.151 82	795 99	2.666 60 .686 44	1,102 00	ī·794 89 ·802 44	2.689 89 .710 24	55 56
57	.096 85	.803 43	.706 58	.078 96	·8og 88	.730 91	57
58	·083 74	·810 76	.727 02	065 28	817 21	751 93	58
59	070 22	.817.97	747 75	.021 12	.824 43	773 27	59
ı	.056 29	825 06	768 77	.036 29	.831 51	794 91	60
60		1825 00			838 47	816 95	61
61	041 92	'832 01	790 09	021 52			62
62	027 11	.838 84	811 73	.006 00	845 28	1839 29	68
63	.011 84	.845 51	'833 64	0.080 02	851 97	1862 00	
64	0.000 10	·852 04	.855 85	·973 46	·858 50	·885 o4	64
65	·980 o6	·858 42	*878 36	'956 43	·864 88	·908 46	65
66	·963 49	·864 65	901 16	938 88	.871 11	932 23	66
67	946 44	·870 7 ī	924 27	920 82	·877 18	956 36	67
68	928 97	·876 62	947 65	902 24	.883 09	980 84	68
69	911 03	882 35	971 32	·883 12	·888 83	T.005 70	69
	892 65	·887 91	995 26	·863 47	·894 40	030 92	70
70				003 47		030 92	71
71	873 82	.893 31	1.019 49	843 27	.899 80	050 52	72
72	854 54	.898 53	043 99	822 51	905 02		
78	·834 80	903 57	.068 77	'801 20	910 08	108 87	78
74	·814 66	·908 44	.093 78	[.] 779 34	·914 96	.132 91	74
75	'794 07	'913 14	11907	·756 9 3	·91965	162 71	75
76	773 07	917 66	144 59	733 94	924 18	190 25	76
77	·751 66	921 99	170 33	710 39	928 53	'218 14	77
78	729 85	926 15	196 30	·686 <u>2</u> 8	932 71	246 42	78
79	.707 67	930 14	222 47	·661 60	936 71	'275 13	79
80	'685 14	933 96	.248 82	.636 38	940 54	304 17	80
81	662 25	933 90	275 36	610 59	'944 20	333 61	81
82	·639 o8		302 01	584 25	944 28	363 44	82
83	615 61	941 09	328 78				83
84	591 86	944 39		.257 36	951 01	393 65	84
		'947 54	.355 68	·529 93	'954 17	424 24	
85	·567 9 0	·950 53	382 63	·501 96	.957 18	'455 21	85
86	543 79	'953 33	409 54	² 473 53	960 02	.486 49	86
87	'5 19 49	.926 or	436 52	444 53	962 71	.218 18	87
88	'495 15	·958 53	'463 38	415 12	965 26	.220 13	88
89	'470 74	•96 o 89	'490 15	'385 21	967 66	.582 45	89
90	.446 22	·963 14	.216 92	'354 70	.969 93	615 22	90
91	422 02	965 21	543 19	324 06	972 05	647 99	91
92	397 49	967 20	569 71	292 48	974 07	681 59	92
93	373 85	969 00	595 15	·261 3 8	975 91	714 53	93
94	349 50	970 75	621 25	.22871	977 70	748 99	94
95	326 76	l .	645 53	197 34	979 29	'781 96	95
96	320 70	'972 29 '973 81	670 84	163 79	979 29	817 08	96
97	282 67		692 37	103 79	982 16	·848 o4	97
98	261 63	.076 28	71465	134 11	982 10	·880 97	98
99	201 03	976 28	746 84	055 68	985 16	929 47	99
1	_	977 94				1	
100	.190 21	979 95	.789 44	ī ·990 82	987 25	996 43	100
101	121 77	982 90	.861 13	'872 45	990 32	0'117 87	101
102	.000 00	'987 17	·987 17	617 86	.994 64	·376 78	102

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VALUES OF TEMPORARY ANNUITIES OF 1

3 PER CENT.

Dura-	10	11	12	13	14	15	16	17	18	19	Dura-
tion.	24.669	24.496	24.817	24.183	28.945	28.751	28.552	28.847	23.138	22.924	tion.
0	.000	.000	.000	,000	.000	.000	.000	.000	.000	.000	0
1	·968	.968	.968	.967	'967	967	.967	'967	·967	.967	1
2	1.004	1.004	1.004	1.003	1,003	1.003	1.003	1,003	1'902	1,005	2
3	2.810	2.809	2.809	5.809	2.809		2.808	2.807	2.807	2.806	3
4	3.686	3.686	3.682	3.682	3.684	3.684	3.683	3.683	3.681	3.680	4
5	4.234	4'533	4.233	4.232	4.231	4.230	4.23	4.28	4.22	4.22	5
6	5.324	5.323	5.352	2.321	2.320	5'349	5'347	5'345	5.343	5'341	6
7	6.147	6.146	6.145	6.144	6'142	6.140	6.138	6.136	6.133	6.130	7
8 9	6.912	6.913	6.912	6.910	6.908	6.905	6.902	6.899	6.896	6.892	8
	7.657	7.655	7.653	7.650	7.648	7.645	7.641	7.637	7.633	7.628	
10	8.374	8.372	8.369	8:367	8.363	8.359	8:355	8:350	8.344	8.338	10
[]	9.068	9.066	9.062	9.059	9.054	9.020	9.044	9.038	9.033	9.024	1
3	9.739	9.736	9.732	9'727	9.722	9.717	9.710	9.703	9.695	9.686	2
4	10.388	10.384	10.379	10.374	10.368		10.323	10'345	10.332	10.322	3 4
	11.012	11,010	11'004	10,008	10,001	10.083	10.974	10'964	10,023	10.941	
15	11.621	11.612	11.608	11,601	11.293	11.283	11.273	11,261	11.249	11.232	15
6	12.300	12'199	15,105	12.183	12'174	12.163	12.121	12'138	12'124	12,108	6
7 8	12.772	12.764	12.755	12'745	12.734	12.722	12.708	12.694	12.677	12.660	7 8
l s	13.845	13.832	13.823	13.5811	13.275	13.261 13.481	13'246	13.229	13.211	13'704	9
-						1	1	13'746	• •		
20	14.354	14'343	14.330	14.316	14.300	14.283	14.564	14'243	14'221	14'197	20
1 2	14.845	14.833	14.818	14.802	14.785	14.766		14.722	14.698	14.671	1 2
8	15.320	15.302	15.589	15.272	15.252	15.531	15.654	15.183	15.124	15.28	3
4	15.777	19.500	15'743	15.724	15.403 16.136	16,111	16'084	16.024	16.023	15.988	4
-	i i						•				
25	16.643	16.623	16.603	16.579	16.224	16.25	16.497	16.465	16.430	16.394	25 6
8 7	17.052	17.031	17.008	16.983	16.956	16.036	16.894 17.276	16.859	16.822	16.783	7
န	17.447	17.424	17.399	17'372 17'746	17'342 17'714	17.310	17.642	17.602	17.260	17.514	8
9	18.193	18.199	18.132	18'105		18.034	17'994	17.952	17'906	17.858	9
1 1		18.216		•	18.414			18.582	18.538	18.186	30
30	18.245 18.884	18.853	18.482 18.819	18.451 18.783		18.375	18.332 18.656	18.608	18.236	18.201	1
2	19.209	19.176	19.140	10,103	10,060	10,012	18.020	18.019	18.861	18.802	2
3	19'523	19.487	19'449	19'408		19,319	•	10,510	19'152	19'089	3
4	19.823	19.786	19.745	19'701		19.603	19.249	19,491	19.430	19.364	4
35	20,115	20.072	20.020	19.983	19.933	19.879	19.822	19.760	19.695	19.626	35
8	20.380	20'347	20.301	20.32	20.100	20'142	20.085	20'017	19.948	19.875	6
7	20.655	20.610	20.262	20.210	20.454	20'394	20.330	50.565	20.180	20,115	7
8	20,010	20.865	20.811	20.756	20.698	20.634	20.262	20.492	20.418	20'337	8
9	21.124	21'104		20.992	20.030	20.863	20.792	20.716	20.636	20.220	9
40	21'387	•	21.522			21.081				20.752	40
ī	21.011	21.222	21.495	21'431		21.580		21,154			1
2	21.824					21.486			31,333		2
8	22.028	21.966		21.829			21.586		1	21.592	3
4	22.555	22.157	22.088				21.759			21,421	4
45	22.407	22.339	22.266				21.021		21'713	21.200	45
8	22.283	22.213	22.435	22.354		22.174		21.969	21.857		6
7	22.750	22.675	22.295	22.210		22'322	22.518	22.108	21,001	21.867	7
8	22.908	22.830	22.746	22.658	22.263			22.538	22.119	-	8
9	23.028	22.976	22.889	22.796	22.697	22.291	22.478	22.359	22.535	22.097	9
	10	II	12	13	TA	15	16	17	18	19	
	10		**	-3	14	13 60	20	-/	20	-7	

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VALUES OF TEMPORARY ANNUITIES OF 1

Dura-	20	21	22	23	24	25	26	27	28	29	Dura-
tion.	22.705	22.481	22.252	22.019	21.781	21.539	21.292	21.041	20.786	20.527	tion.
0	.000	.000	.000	.000	.000	.000	.000	.000	,000	.000	0
1	.967	.967	.967	.967	.966	.966	•966	.966	.966	•965	1
2	1,003	1.001	1.001	1.001	1.000	1,000	1.899	1.898	1.898	1.897	2
8	2.806	2.802	2.804	2.803	2.803	2.801	2.800	2.299	2.262	2.796	3
4	3.679	3.678	3.676	3.675	3.673	3.671	3.670	3.667	3.662	3.663	4
5	4.23	4.251	4.219	4.21	4.214	4.212	4.209	4.206	4.203	4'499	5
6	5.339	5.336	5.333	5.330	5.326	5.323	5.319	5.314	5.310	5.302	6
7	6.000	6.123	6.119	6.112	6.110	6.102	6.100	6.094 6.846	6.088	6.085	7 8
8	6.888	6.883	6.878 7.610	6.872	6.866	6.860 7.288	6.853		6.838	6.830	9
9	7.622	7.616	1	7.603	7.596		7.579	7.570	7.261	7.551	
10	8.332	8.324	8.316	8.308	8.299	8.289	8.279	8.268	8.257	8.245	10
1	9.019	9.007	8.998		8.977	8.965	8.953	8.940	8.927	8.912	1
2	9.677	9.666	9.655	9.643	9.630	9.617	9.602	9.587	9.271	9.555	2
8	10.314	10.302	10.580	10.275	10,360	10'244	10'227	10.510	10,105	10'172	3 4
4	10.928	10.014	10.899	10.883	10.866	10.848	10.850	10.809	10.788	10.766	
15	11.250	11.204	11.487	11.469	11.450	11.429	11.408	11.382	11.361	11.336	15
6	15.001	12.043	12.024	12.033	12'011	11.088	11.964	11.039	11.912	11.884	6
7	12.641	15.051	12.299	12.276	12.22	12.256	12.499	12.470	12'441	12.410	7
8	13.170	13.148	13.154	13.008	13.041	13.043	13.013	12.081	12.948	12.014	8
9	13.680	13.655	13.629	13.600	13.241	13.239	13.206	13.471	13.435	13.397	9
20	14.171	14'143	14'114	14.083	14.020	14'016	13.080	13.941	13'902	13.860	20
1	14.643	14.613	14.281	14.244	14.211	14'473	14'434	14.392	14.348	14'302	1
2	15.092	15.064	15.059	14.993	14.923	14'912	14.869	14.823	14.776	14.726	2
3	15.233	15.497	15.459	15.419	15.377	15.335	15.586	15.536	12.182	12,131	3
4	15.952	12.013	15'872	15.829	15.483	15.732	15.682	15.631	15.246	15.214	4
25	16.324	16.313	16.568		16.143	16.151	16.066	16.000	15'949	15.882	25
6	16.40	16.696	16.648	16.298	16.242	16.489	16.431	16.369	16'304	16.536	6
7	17'111	17.063	17.012	16.928	16.901	16.842	16.779	16.413	16.643	16.269	7
8	17.466	17.414	17.360	17.302	17.242	17.178	17'110	17.039	16.962	16.886	8
9	17.806	17.751	17.693	17.631	17.267	17:498	17.426	17.320	17.270	17.186	9
30	18.131	18.073	18.011	17'945	17.876	17.803	17.727	17.646	17.260	17.470	30
1	18.442	18.380	18.314	18.245	18.171	18.094	18.015	17.926	17.835	17.739	1
2	18.740	18.674	18.604	18.230	18.452	18.369	18.585	18.191	18.094	17.992	2
3	19.023	18.953	18.879	18.801	18.718	18.631	18.239	18.441	18.338	18.530	8
4	19.294	19.550	19'141	19.028	18.971	18.878	18.480	18.677	18.268	18.453	4
35	19.252	19.473	19.390	19.303	19.210	19.115	19,008	18.899	18.784	18.663	35
6	19.797	19.714	19.626		19'436	19.332	19.553	19.108	18'986	18.828	6
7	20.029	19.942	19.850	19.752	19.649	19.239	19.424	19.303	19.175	19.039	7
8	20.520	20.128	20.001	19.958	19.849	19.734	19.613	19.485	19.320	19.508	8
9	20.459	20.365	20.360	20,121	20.032	19.916	19.789	19.654	19.212	19.363	9
40	20.656	20.224	20.447	20.333	20.513	20.086	19.952	19.811	19.662	19.206	40
1		20.735	20.622	20.203			20.104	19.956	19.800	19.636	1
2		20.002	20.787			20.390		20.089	19.927	19.756	2
8	21.180	21'064	20'940	20.809	20.671	20.256	20.375	50,511		19.863	8
4	21.334	21,515	21.083	20.946	20.802	20.620		20,355	20'146	19.960	4
45	21'477	21.320	21.512	21'072	20.923	20.764	20.597	20.422	,	20'047	45
в		21.478		21.189	21.032		20.695		20.353	20'124	6
7	21.734	21.296		21.592	21.135	20.961	20.782	20.294		50,165	7
8	21.848	21.402	21.222	21.392	21.553	-	20.860	20.666		20.521	8
9	21.953	21.804	21.646	21.479	21.305	21.151	50.030	20.229	20.250	20.303	9
	20	21	22	23	24	25	26	27	28	29	
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VALUES OF TEMPORARY ANNUITIES OF 1

Dura-	30	31	32	33	34	3 5	36	37	38	39	Dura-
tion.	20.264	19:996	19.725	19.449	19·169	18.885	18.596	18:303	18.004	17.702	tion.
0	.000	.000	.000	*000	.000	.000	.000	*000	000	.000	0
1	.965	965	.965	964	964	.964	.963	.963	.963	962	1
2	1.896	1.896	1.895	1.894	1.893	1.892	1.891	1.890	1.889	1.888	2
3 4	2.494 3.661	2.793 3.658	2.491 3.656	2.790 3.653	2·788 3·650	2°786 3°647	2·784 3·644	2.782 3.641	2.781 3.638	2·778 3·634	3 4
	ا ہا		4.488	3°53	4.480			4.466			_
5 6	4°496 5°300	4'492 5'295	5.290	5.284	5.278	4.476 5.273	4'471 5'266	5.500	4'461 5'253	4.456 5.545	5 6
7	6.075	6.069	6.065	6.024	6.042	6.039	6.030	6.055	6.013	6.003	7
8	6.822	6.813	6.804	6.795	6.785	6.775	6.765	6.754	6.742	6.729	8
9	7.241	7.230	7.219	7.207	7.496	7.483	7.470	7.456	7.441	7.426	9
10	8.232	8.550	8.306	8.192	8.178	8.163	8.146	8.129	8.113	8.093	10
1	8.898	8.883	8.867	8.850	8.833	8.814	8.795	8.775	8.754	8.731	1
2	9.238	9.250	9.201	9.481	9.461	9:440	9.417	9:393	9.368	9.341	2
3 4	10.123	10'132	10.110		10.064	10.039	10.013	9.985	9.956	9.925	3 4
	10.743	10.720	10.695	10.669	10.642	10.613	10.283	10.221	10.214	10.481	1
15	11.311	11'284	11.256	11.550	, ,	11.163	11'128	11'092	11.023	11.013	15
6 7	11.855	11.825	11.793	11.760		11.688	11.649	11.608	11.264	11.212	6 7
8	12.878	12.840	12.801	12.759	12.216	12.660		12.268	12.213	12.454	8
9	13.357	13.316	13.575	13.556	, ,	13.156		13.014	12.923	12.887	9
20	13.816	13.770	13.722	13.671	13.618	13.261	13.201	13'437	13.369	13.597	20
1	14.525	14'205	14.125	14.096	_	13.975	13,000	13.838	13.764	13.684	1
2	14.674	14.619	14.261	14.200		14.368		14.518		14.048	2
3	15.074	15.014	14.951	14.885		14.740	14.661	14'577	14'488	14'392	3
4	15.455	15.391	15.322	15.520	15'174	15.093	15.002	14.912	14.818	14.714	4
25	15.819	15.749	15.675	15.296	15.214	15.426	15.333	15.234	15.128	15.012	25
6	16'164	16:088	16.009	15.924		15.40	15.639	15.232	15.418	15.597	6
7	16.492	16.411	16.325	16'234		16.036	15.927	15.812	15.689	15.228	7 8
8	16.803	16.716	16.623	16.800		16.213	16.196 16.442	16.312	16.14	15.801	9
30				_		16.812	16.681			16.530	30
1	17.376	17.276	17.170	17.058	16.940 14.149	17.040	16.898	16.240	16.288	16.419	ĭ
2	17.885	17.771	17.651	17.524		17.249	17.098	16.938	16.440	16.200	2
3	18.119	17.996	17.868	17.734	17.592	17.441	17.282	17.113	16.932	16.746	3
4	18.333	18.502	18.020	17.928		17.619	17.450	17.273	17.084	16.886	4
35	18.535	18.400	18.258	18.102	17.948	17.781	17.603	17'416	17.219	17.011	35
6	18.723	18.281	18.430	18.272	18.102	17.928	17.742	17.546	17.339	17.122	6
7	18.897	18.747	18.289	18.422	18.247	18.065	17.867	17.662	17.446	17.550	7
8	19.028	18.901	18.735	18.260	18.376	18.183	17.979	17.765	17.541	17:305	8
9	19.306	19.041	18.867	18.684	18.492	18.500	18.078	17.856	17.623	17:379	9
40	19'342	19.169	18.987	18.796		18.386	18.162	17:935	17.694	17.442	40
1 2	19.465	19.384		18.982		18.470 18.544				17.496	1 2
3	19:677	19,482		19.063					17.850	17.578	3
4	19.767	19.264		19.135			18.412	18.123		17.608	4
45	19.847	19.637		19.191	. *		18.452		_	17.632	45
6	19'917	19.701	19.476	19.241	18.008	18.746				17.651	6
7	19.979	19.756		19.284	19.036	18.778	18.212	18.238		17.665	7
8	20.035	19.803	19.266	19.320	19.066			18.252	17.970	17.677	8
9	20.077	19.843	19.601	19.320	19.091	18.825	18.220	18.569	17.980	17.685	9
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1		17:394	17:081	16.764	16.441	16.114	15.782	15.445	15·104	14-757	14.408	tion.
2 1 :887 1:886 1:884 1:883 1:880 1:886 1:87 1:874 1:872 3 2:776 2:774 2:774 2:771 2:768 2:762 2:762 2:755 2:751 2:744 3:630 3:626 3:622 3:617 3:613 3:607 3:602 3:595 3:589 3:581 3:681 3:607 3:602 3:595 3:589 3:581 3:681 3:607 3:602 3:595 3:589 3:581 3:681 3:602 3:595 3:589 3:581 3:681 3:602 3:595 3:589 3:581 3:681 3:602 3:595 3:586 5:85 5:775 3:592 3:592 3:595 3:586 5:855 3:676 3:590 5:565 5:585 3:778 3:592 3:595 5:565 5:585 3:778 3:592 3:595 3:586 3:595 3:595 3:595 3:5	0	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	0
3 2.776 2.774 2.771 2.774 2.771 2.768 2.766 2.762 2.759 2.755 2.751 2.747 4 3.630 3.620 3.622 3.617 3.613 3.607 3.602 3.589 5.715 5.146 5.155 5.155 5.715 6.666 6.666 6.670 6.633 6.613 6.613 6.529 6.526 6.529 8.527 8.502 7.975 7.946 7.914 7.880 7.843 7.802 7.914 7.880 7.843 7.803 2.931 9.722 7.223 7.723 7.736 7.946 7.914 7.928 7.923 7.725 7.748 7.928 7.923 7.925 9.738 9.939 8.898 8.932 8.939 9.899 9.722 9.511 <th>1</th> <th></th> <th></th> <th></th> <th></th> <th>.960</th> <th></th> <th></th> <th></th> <th>.958</th> <th></th> <th>1</th>	1					.960				.958		1
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6 4'450 4'444 4'438 4'431 4'424 4'416 4'407 4'398 4'388 4'377 6 5'227 5'229 5'229 5'231 5'220 5'135 8'16 6'750 6'686 6'670 6'653 6'633 6'613 6'590 6'566 6'539 7'391 7'394 7'862 7'204 7880 7'843 8'331 8'381 8'381 8'383 8'393 9'899 9'855 9'816 9'755 9'133 9'913 9'957 9'434 10'461 10'411 10'451 10'461 10'442 10'461 10'471 10'461 10'471 10'461 10'471 10'461 10'471 10'461 10'471 <t< th=""><th></th><th>2.776</th><th></th><th></th><th>2.768</th><th></th><th></th><th></th><th></th><th></th><th></th><th>8</th></t<>		2.776			2.768							8
6 5-227 5-229 5-220 5-220 5-221 5-261 5-596 5-597 5-943 5-921 5-85 5-856 5-855 5-856 5-855 5-855 5-855 5-855 5-855 5-855 5-855 5-855 5-855 5-855 5-855 5-856 5-855 5-856 5-855 5-856 5-855 5-856 6-539 9-7499 7-7391 7-7372 7-7352 7-7350 7-7280 7-7280 7-7280 7-7280 7-7280 7-822 7-7281 7-880 7-843 7-883 2-822 7-830 7-946 7-914 7-880 7-843 7-882 2-722 7-221 7-882 7-833 9-881 9-732 9-681 9-681 9-681 9-732 9-681 9-629 9-572 9-571 9-733 9-681 9-629 9-572 9-511 9-444 4 10-442 10-442 10-366 10-369 10-381 10-329 10-329 10-329 10-329 10-329	4	3.630	3.626	1	3.617	3.613	3.607	3.603			3.281	4
7 5-992 5-981 5-969 5-957 5-943 5-948 5-912 5-895 5-876 5-855 8-6716 6-702 6-686 6-670 6-653 6-6	5	4.420	4'444		4.431	4'424						5
8 6-716 6-702 6-686 6-670 6-653 6-633 6-613 6-590 6-566 6-539 9 7-409 7-391 7-372 7-352 7-330 7-380 7-280 7-280 7-280 7-281 10 8-706 8-680 8-652 8-622 8-590 8-555 8-517 8-476 8-431 8-383 2 9-312 9-282 9-249 9-213 9-175 9-133 9-088 9-039 8-987 8-930 3 9-891 9-855 9-816 9-775 9-730 9-681 9-629 9-639 9-75 9-751 9-144 4 10-442 10-401 10-356 10-308 10-256 10-200 10-140 10-074 10-004 9-927 15 10-967 10-920 10-869 10-814 10-755 10-690 10-622 10-547 10-466 10-379 81 11-467 11-413 11-355 11-293 11-2087 11-1941 11-880 11-815 11-745 11-669 11-588 11-500 11-405 10-899 10-880 1-811 11-355 11-293 11-2087 11-966 11-898 11-792 11-679 11-557 11-594 11-885 11-815 11-745 11-669 11-588 11-500 11-405 11-305 11-93 11-93 11-2087 11-966 11-898 11-792 11-679 11-557 11-557 11-500 11-405					_	1 -	2.189					6
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8 12'391 12'323 12'249 12'171 12'087 11'996 11'898 11'792 11'679 11'557 12'18'19 12'816 12'741 12'659 12'572 12'479 12'378 12'269 12'152 12'027 11'893 12'18 13'135 13'045 12'949 12'846 12'348 12'345 12'047 12'048 13'357 13'506 13'407 13'301 13'188 13'055 13'305 12'794 12'648 12'049 14'754 14'061 13'936 13'853 13'745 13'630 13'506 13'373 13'331 13'078 12'915 12'741 13'197 14'061 13'936 13'801 13'055 13'502 13'337 13'161 12'973 14'4061 13'936 13'801 13'056 13'373 13'378 13'161 12'973 14'602 14'483 14'355 14'219 14'074 13'917 13'751 13'573 13'384 13'184 14'602 14'484 14'364 14'481 14'324 14'156 13'978 13'787 13'585 13'761 15'166 15'027 14'879 14'702 14'553 14'373 14'83 13'980 13'765 13'538 15'656 15'052 15'492 15'322 15'142 14'951 14'747 14'533 14'353 13'765 13'538 15'655 15'655 15'555 15'324 15'121 14'906 14'679 14'439 14'187 13'923 15'640 15'038 15'658 15'658 15'658 15'658 15'568 15'548	1											6
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3 17.296 17.006 16.706 16.399 16.083 15.760 15.430 15.093 14.751 14.403 4 17.321 17.026 16.722 16.411 16.093 15.767 15.435 15.093 14.751 14.405 45 17.341 17.042 16.735 16.421 16.100 15.772 15.439 15.100 14.755 14.406 6 17.356 17.054 16.744 16.428 16.105 15.776 15.431 15.100 14.755 14.407 7 17.367 17.062 16.750 16.433 16.101 15.778 15.441 15.102 14.757 14.407 8 17.376 17.069 16.755 16.438 16.112 15.780 15.444 15.103 14.757 14.407 9 17.382 17.073 16.758 16.438 16.112 15.780 15.444 15.103 14.757 14.407				16.68c	16.381	16.020	15.40			- • -		2
4 17'321 17'026 16'722 16'411 16'093 15'767 15'435 15'097 14'753 14'405 45 17'341 17'042 16'735 16'421 16'100 15'772 15'439 15'100 14'755 14'406 6 17'356 17'054 16'744 16'428 16'105 15'776 15'441 15'101 14'755 14'407 7 17'367 17'062 16'750 16'433 16'109 15'778 15'441 15'102 14'757 14'407 8 17'376 17'069 16'755 16'436 16'111 15'780 15'444 15'103 14'757 14'407 9 17'382 17'073 16'758 16'438 16'112 15'780 15'444 15'103 14'757 14'407 9 17'382 17'073 16'758 16'438 16'112 15'780 15'444 15'103 14'757 14'407 9 17'382 17'073 16'758 16'438 16'112 15'780 15'444 15'103 14'757 14'407 9 17'382 17'073 16'758 16'438 16'112 15'780 15'444 15'103 14'757 14'407 9 17'382 17'073 16'758 16'438 16'112 15'780 15'444 15'103 14'757 14'407 9 17'382 17'073 16'758 16'438 16'112 15'780 15'444 15'103 14'757 14'407 9 17'382 17'073 16'758 16'438 16'112 15'780 15'444 15'103 14'757 14'407 9 17'382 17'073 16'758 16'438 16'112 15'780 15'444 15'103 14'757 14'407 9 17'382 17'073 16'758 16'438 16'112 15'780 15'444 15'103 14'757 14'407 9 17'382 17'073 16'758 16'438 16'112 15'780 15'444 15'103 14'757 14'407 9 17'382 17'073 16'758 16'438 16'112 15'780 15'444 15'103 14'757 14'407 9 17'382 17'073 16'758 16'438 16'112 15'780 15'444 15'103 14'757 14'407 9 17'382 17'073 16'758 16'438 16'112 15'780 15'444 15'103 14'757 14'407 9 17'382 17'073 16'758 16'438 16'112 15'780 15'444 15'103 14'757 14'407 9 17'382 17'073 16'758 16'438 16'112 15'780 15'444 15'103 14'757 14'407 9 17'382 17'073 16'758 16'438 16'112 15'780 15'444 15'103 14'757 14'407 9 17'382 17'073 16'758 16'438 16'112 15'780 15'444 15'1	B			16.406	16,300				-			3
45 17.341 17.042 16.735 16.421 16.100 15.772 15.439 15.100 14.755 14.406 6 17.356 17.054 16.744 16.428 16.105 15.776 15.441 15.101 14.756 14.407 7 17.367 17.062 16.750 16.433 16.109 15.778 15.443 15.102 14.757 14.407 8 17.376 17.069 16.755 16.436 16.111 15.780 15.444 15.103 14.757 14.407 9 17.382 17.073 16.758 16.438 16.112 15.780 15.444 15.103 14.757 14.407 9 17.382 17.073 16.758 16.438 16.112 15.780 15.444 15.103 14.757 14.407 9 17.382 17.073 16.758 16.438 16.112 15.780 15.444 15.103 14.757 14.407 9 17.382 17.073 16.758 16.438 16.112 15.780 15.444 15.103 14.757 14.407 9 17.382 17.073 16.758 16.438 16.112 15.780 15.444 15.103 14.757 14.407 9 17.382 17.073 16.758 16.438 16.112 15.780 15.444 15.103 14.757 14.407 9 17.382 17.073 16.758 16.438 16.112 15.780 15.444 15.103 14.757 14.407 9 17.382 17.073 16.758 16.438 16.112 15.780 15.444 15.103 14.757 14.407 9 17.382 17.073 16.758 16.438 16.112 15.780 15.444 15.103 14.757 14.407 9 17.382 17.073 16.758 16.438 16.112 15.780 15.444 15.103 14.757 14.407 9 17.382 17.073 16.758 16.438 16.112 15.780 15.444 15.103 14.757 14.407 9 17.382 17.073 16.758 16.438 16.112 15.780 15.444 15.103 14.757 14.407 9 17.382 17.073 16.758 16.438 16.112 15.780 15.444 15.103 14.757 14.407 9 17.382 17.073 16.758 16.438 16.112 15.780 15.444 15.103 14.757 14.407 9 17.382 17.073 16.758 16.438 16.112 15.780 15.444 15.103 14.757 14.407 9 17.382 17.073 16.758 16.438 16.112 15.778 15.444 15.103 14.757 14.407 9 17.382 17.073 16.758 16.438 16.112 15.778 15.444 15.103 14.757 14.407 14.407 14.407 14.407 14.407 14.407 14.407 14.407 14.407						16.003	15.767					4
6 17.356 17.054 16.744 16.428 16.105 15.776 15.441 15.101 14.756 14.407 7 17.367 17.062 16.750 16.433 16.109 15.778 15.443 15.102 14.757 14.407 8 17.376 17.069 16.755 16.436 16.111 15.780 15.444 15.103 14.757 14.407 9 17.382 17.073 16.758 16.438 16.112 15.780 15.444 15.103 14.757 14.407 17.382 17.073 16.758 16.438 16.112 15.780 15.444 15.103 14.757 14.407 17.382 17.073 16.758 16.438 16.112 15.780 15.444 15.103 14.757 14.407 17.382 17.073 16.758 16.438 16.112 15.780 15.444 15.103 14.757 14.407 17.382 17.073 16.758 16.438 16.112 15.780 15.444 15.103 14.757 14.407 17.382 17.073 16.758 16.438 16.112 15.780 15.444 15.103 14.757 14.407 17.382 17.073 16.758 16.438 16.112 15.780 15.444 15.103 14.757 14.407 17.382 17.073 16.758 16.438 16.112 15.780 15.444 15.103 14.757 14.407 17.382 17.073 16.758 16.438 16.112 15.780 15.444 15.103 14.757 14.407 17.382 17.073 16.758 16.438 16.112 15.780 15.444 15.103 14.757 14.407 17.382 17.073 16.758 16.438 16.112 15.780 15.444 15.103 14.757 14.407 17.382 17.38	45			•								45
7 17'367 17'062 16'750 16'433 16'109 15'778 15'443 15'102 14'757 14'407 8 17'376 17'069 16'755 16'436 16'111 15'780 15'444 15'103 14'757 14'407 9 17'382 17'073 16'758 16'438 16'112 15'780 15'444 15'103 14'757 14'407 15'103 15'103 14'757 14'407 15'103				16.44		10.101	15.446	15'441	12,101			6
8 17:376 17:069 16:755 16:436 16:111 15:780 15:444 15:103 14:757 14:407 17:382 17:073 16:758 16:438 16:112 15:780 15:444 15:103 14:757 14:407						16.100	15.778					7
9 17.382 17.073 16.758 16.438 16.115 15.444 15.103 14.757 14.407	_			16.755								8
	9											9
1												
10 12 13 14 13 10 17 10 19		40	4I	42	43	44	45	46	47	48	49	

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VALUES OF TEMPORARY ANNUITIES OF 1

Dura:	50	51	52	53	54	55	56	57	58	59	Dura-
tion.	14.054	13.697	13.336	12.973	12:607	12.239	11.869	11.498	11.127	10-755	tion.
0	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	0
1	.956	'955	'954	'953	.952	.621	'950	.948	'947	'945	1
2	1.870	1.867	1.864	1.861	1.828	1.854	1.820	1.846	1.841	1.836	2
3 4	2.742	2.737	2.421	2.725	2'718	2.210 3.21	2.202	2.694	2.684	2.673 3.460	3 4
5	3°573 4°365	3.262 4.325	3°555 4°338	3°545 4°322	3°533 4°305	4.584	3.508 4.267	3°493 4°245	3'477 4'222	4.196	5
6	5.118	2,100	5.080	5.028	5.034	2,000	4.081	4.921	4'918	4.882	6
7	5.833	5.809	5.782	5.753	5.722	5.688	5.651	5.612	5.268	5.21	7
8	6.211	6.480	6.446	6.409	6.369	6.322	6.279	6.558	6.173	6.113	8
9	7.153	7.114	7.071	7.025	6.976	6.922	6.864	6.801	6.733	6.660	9
10	7.759	7.711	7.660	7.604	7.544	7.479	7.408	7.333	7.251	7.162	10
1 2	8·330 8·868	8·274 8·801	8.212 8.212	8·146 8·651	8.074 8.267	7'996 8'476	7.913 8.379	7 ^{.8} 23	7.727 8.162	7.622 8.041	1 2
3	9.373	9'295	9,515	9.151	9.024	8.010	8.807	8.687	8.559	8.421	8
4	9.845	9.756	9.660	9.557	9.446	9.327	9.199	9.063	8.918	8.762	4
15	10.586	10.182	10.076	9.959	9.834	9.700	9.556	9.404	9.241	9.067	15
6	10.696	10.285	10.460	10.329	10.180	10.039	9.880	9.710	9.230	9'339	6
7	11.076	10.949	10.813	10.667	10'512	10.347	10.111	9.984	9.787	9.577	7
8	11.426	11.586	11.136	10.976	11.068	10.623	10.431	10.327	10.013	9°786 9°966	8 9
20	11.749	11.292	11.430	11.222	11.304	11,001	10.866	10.445	10.381	10.151	20
ĩ	12'313	12,131	11.937	11.731	11.213	11.584	11.043	10'791	10.527	10'252	ı
2	12.226	12.360	12.121	11.030	11.698	11.453	11.162	10,030	10.621	10.361	2
8	12.775	12.265	12.341	12.106	11.859		11,350	11.047	10.422	10.452	8
4	12.971	12.747	12.209	12.360	11.998	11.725	11.440	11.142	10.840	10.252	4
25	13'145	12.907	12.656	12.392	12'117	11.831	11.234	11.327	10.010	10.284	25
6 7	13.599	13'047	12.281	12.206		11.020	11.611	11.505	10.962	10.699	6 7
8	13.433	13.168	12.083	12.683	12'303	11,023	11.673	11.342	11.009	10.693	8
9	13.648	13.329	13.000	12.749	12'429	12,100	11.763	11.419	11.068	10.413	9
30	13'731	13.433	13.153	12.804		12'138	11.793	11'443	11.087	10.727	30
1	13.802	13'494	13.172	12.847	12.210	12'167	11.816	11.461	11,101	10.737	1
2	13.860	13.243	13.519	12.881	12.238	12'188	11.833	11.474	11,110	10'744	2
8	13.907	13.282	13.549	12.907	1	12'204	11.845	11'483	11'117	10.748	8 4
4	13.945	13.613	13.274	12.927		12,319	11.854	11.489	11.131	10.751	35
35 6	13.974	13.637	13.307	12.021	12.282	13,330	11.863	11'493	11'124	10.753	8
7	14.014	13.669	13'317	12,020		13,533	11.866	11'497	11.156	10.754	7
8	14.027	13.678	13.324	12.964	12.601	12.536	11.867	11.498	11.122	10.755	8
9	14.036	13.682	13.328	12.968		12.532	11.868	11'498	11.154	10.755	9
40	14.043	13.690		12.970					11.152	10.755	40
	14.047		13.334	12'971		12.538				10.755	2
2 8		13.694 13.696		12.972		12.538	11.869			10.755	8
4	14.023		13.336	12.072			11.869	11.498		59	
45		13.697						11.498	58		
6			13.336	12.973	12.606	12.539	11.869	57		_50	
7			13.336			12.539		E2	51	14-054	
8 9			13.336		12.602	f			13.697	14.024	52
الا	14.024	13.697	13.336	12.973		Į.		13.336	13.697	14.024	ī
								13.336	13.697	14.054	50
	50	51	52	53	54	55	56	52	51	50	
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VALUES OF TEMPORARY ANNUITIES OF 1

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Dura-	60	61	62	63	64	65	66	67	68	69 ·	Dura-
tion.	10.384	10.013	9.644	9.277	8.913	8.551	8.194	7.840	7:491	7.148	tion.
0	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	0
1	'943	.941	.938	•936	'933	.930	·927	.923	.919	.915	1
2	1.830	1.823	1.814	1.809	1.801	1'792	1.783	1.445	1.461	1.749	2
3	2.665	2.620	2.636	2.622	2.606	2.288	2.240	2.249	2.252	2.203	8
4	3.441	3.421	3.398	3.374	3.348	3.350	3.590	3'257	3,551	3.183	4
5	4.168	4'138	4.102	4.040	4.031	3.990	3'945	3.897	3.846	3.790	5
6	4.844	4.802	4.757	4.709	4.656	4.600	4.539	4'474	4'404	4,330	6
7	5'471	5.416	5'357	5'294	5.552	5.12	5.074	4.990	4.900	4.802	7
8	6.049	5.980	5.006	5.826	5.741	5.649	5.252	5.448	5'337	5.550	8
9	6.281	6.497	6.406	6.309	6.502	6.094	5.976	5.821	5.719	5.579	
10	7.068	6.967	6.859	6.743	6.088 6.088	6.489	6.320	6.203	6'049	5.886	10
1 2	7.211	7.393	7.266	7.131		6·837 7·140	6.677	6.208 6.269	6.331 6.231	6.147	2
3	7°913 8°274	7.776 8.119	7.631 7.954	7°476 7°780	7°313 7°596	7.403	6.959 7.501	6 .9 90	6.771	6·365 6·544	3
4	8.598	8.423	8.239	8.045	7.841	7.628	7.406	7.172	6.936	6.691	4
15	8.885	8.691	8.488	8.275	8.021	7.819	7.577	7.328	7.071	6.808	15
8	9.137	8.922	8.703	8.471	8.556	7.978	7.719	7'452	7.178	6.900	8
7	9.358	9,138	8.888	8.638	8.378	8.110	7.834	7.551	7.263	6.970	7
8	9.249	9.302	9.044	8.777	8.201	8.217	7.926	7.629	7.328	7.024	8
9	9.713	9.449	9.175	8.892	8.601	8.302	7.998	7.689	7:377	7.064	9
20	9.851	9.241	9.283	8.985	8.68°	8.370	8.054	7.735	7.414	7'092	20
1	9.967	9.673	9:370	9.060	8.743	8.422	8.096	7.769	7.440	7'112	1
2	10.063	9.755	9.440	9,119	8.792	8.461	8.127	7.793	7.458	7.125	2
3	10'141	9.821	9.496	9.164	8.828	8.490	8.120	7.810	7.471	7'134	3
4	10.503	9.873	9.238	9.198	8.855	8.211	8.162	7.821	7°479	7'140	4
25	10.52	9.913	9.240	9.223	8.875	8.225	8.176	7.829	7.484	7.143	25
6	10.589	9'943	9.294	9.242	8.888	8.232	8.183	7.833	7.487	7.142	6
7	10.318	9.966	9.611	9.254	8.897	8.241	8.184	7.836	7.489	7.146	7
8	10,330	9.982	9.623	9.263	8.904	8.546	8.100	7.838	7.490	7.147	8
9	10.324	9.993	9.631	9.269	8.907	8.248	8.192	7.839	7.490	7.147	9
80	10.362	10,001	9.636	9.272	8.910	8.220	8.193	7.839	7'491	7'148	30
1	10.372	10,000	9.640	9.275	8.911	8.220	8.193	7.840	;'491	7.148	1
2 3	10.377	10,000	9.642	9.276	8.912 8.913	8.221	8.193	7.840	7.491	7'148	2 3
4	10,381 10,380	10'011	9.643 9.644	9.277	8.912	8.221 8.221	8.1 3 8.133	7·840 7·840	7.491	7°148 69	ľ
35	10,385	10.013	9.644	9.277	8.913	8.221	8.193	7.840	7'491 68		
6	10.383	10.013	9.644	9°277	8.913	8.221	8.193	67		40	
7	10,383	10,013	9.644	9.277	8.013	8.221	66		4I	17:004	
8	10.383	10,013	9.644	9.277	8.913	65		42	17:081	17:394	
9	10.384	10.013	9.644	9.277	64		43	16.764		17.394	62
40	10.384	10.013	9.644	63		44	16.441		17.081	17.394	1
1	10.384	10.013	62		45	16.114		16.764		17.394	60
2	10'384	61		46	15.782		16.441	16.764		17.394	59
	60	40	47	15.445		16.114		16.764		17'394	8
	40	48	15.104		15.782	16.114				17'394	7
	49	14.757		15.445	15.782	16.114	16'441	16.763		17:394	6 5
	14.408		15'104	15.445	15.782		16'441			17.393	
53	14.408	14.757		15.445	15.781	16.114 16.114	16'441	16.763		17'393	54 3
2	14.408	14.757	15'104	15°445						17.392	2
ı	14.408	14'757	15'104	15'445	15.781	16.114	16.440		17.078	17.389	1
50	14'408	14.757	12,103	15'445	15.781	16.113	16.439	16.460	17.076	17.386	50
	49	48	47	46	45	44	43	42	41	40	
	49	40	4/	40	45	<u> </u>	43	42	4-	1 40	

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VALUES OF TEMPORARY ANNUITIES OF 1

0 1 2 3 4 5	6·810 ·000 ·911 1·735 2·478	6·479 •000 •906	6.154	5.836	5.526						1
1 2 3 4 5	.911 1.435	1 .		I	5.520	5.224	4.930	4.645	4.368	4.101	tion.
2 3 4 5	1.435	.006	.000	.000	'000	.000	.000	.000	.000	.000	0
3 4 5		, ,,,,	.900	.894	· 8 88	·881	873	.865	.856	.847	1
4 5	2.478	1.451	1.402	1.688	1.640	1.620	1.629	1.606	1.285	1.222	2
5		2.420	2.420	2.388	2.323		2.276	2.534	2.188	2'140	3
1	3.141	3.097	3.020	5,999	2.944	2.886	2.824	2.758	2.689	2.612	4
	3.431	3.667	3.299	3.527	3.450	3.369	3.583	3,191	3.096	2.992	5
6 7	4.50	4.162	4.075	3.980	3.879	3.773	3.661	3.544	3'421	3'294	6
8	4.404	4.296	4.483	4.363	4'237	4.100	3.968	3.826	3.677	3.222	7 8
9	5.096	4.965	4.828 5.116	4 [.] 684 4 [.] 948	4.533	4.377	4'408	4°047	3.875 4.024	3.828 3.828	9
10	5.432	5.278	_	5.163	4'774	4`594 4`764	1	4'347		- 1	
1	5.716 5.954	5.239	5°355 5°548		4.966 2.118	4.896	4.557 4.670	4 34 7	4°134 4°213	3.920 3.985	10 1
2	6.121	5°755 5°930	5.40	5'33 ⁶	5'234	4.992	4.753	4.211	4.569	4.029	2
3	6.311	6.040	5.825	5.575	5.353	5.068	4.813	4.559	4.302	4.058	3
4	6.438	6.181	5.010	5.654	5.388	5.151	4.855	4.291	4.331	4.076	4
15	6.239	6.266	2.990	5.712	5.434	5.128	4.883	4.613	4'347	4.087	15
6	6.616	6.330	6.045	5.754	5.467	5.183	4'902	4.626	4'357	4.094	6
7	6.675	6.378	6.080	5.783	5.490	2,199	4.914	4.635	4'362	4.097	7
8	6.718	6.412	6.106	5.803	5.204	5.510	4.921	4.639	4.362	4.099	8
9	6.749	6.436	6.124	5.816	5.213	5.516	4'925	4.642	4.367	4,100	9
20	6.771	6.452	6.136	5.825	5.219	5.550	4.928	4.644	4.368	4'101	20
1	6.786	6.463	6.144	5.830	5.25	5.555	4.929	4.644	4.368	4'101	1
2	6.795	6.469	6.148	5.833	5.24	5.553	4'930	4.645	4.368	4.101	2
3	6.802	6.473	6.121	5.834	5.25	5.554	4.930	4.645	4.368	4,101	3
4	6.802	6.476	6.125	5.835	5.25	5.554	4'930	4.645	4.368	79	
25	6.807	6.477	6.123	5.836	5.256	5.554	4'930	4.645	78	30	
6	6.809	6.478	6.123	5.836	5.26	5.224	4'930	77	31		
7	6.809	6.478	6.124	5.836	5.26	5.554	76	32	3-	20.264	
8 9	6.810 6.810	6.478	6.124	5.836	5.26	75	33		19.996	20.264	72
30	6.810	6.478		5.836	74	34		19.725	19.996	20.264	1
1	6.810	6.479	6.124	78	35		19.449	19.725	19.996	20.264	70
2	6.810	6.479	72	36		19.169	19.449	19.725	19'996	20'264	69
~	70	71	37		18.885	19.169	19.449	19.725	19.996	20'264	8
- 1		3 8		18.596	18.885	19'169	19'449	19.725	19,996	20.264	7
1	39		18.303	18.296	18.882	19'169		19.725	19.996	20.564	6
	17.702	18.004	18.303	18.296	18.882	19,169	19.449	19.725	19.996	20.563	5
- 1.		18.004	18.303	18.296	18.885	19.169		19.725	19.996	20.563	64
. 1	17.702	18.004	18.303	18.596	18.885		19.449	19.725	19.996	20.263	3
_ 1	17.702	18.004	18.303	18.296	18.885		19.449	19.724	1	20.262	2
1	17.702	18.004	18.303	18.296	18.885	19.169	19 448	19.724	19.995	20.260	1 60
		18.004	10 303	18.596	-0.00 ·	19 109	19'448			٠.١	
59	17.702	18.004	18.305	10.595		19.168	19 . 447	19.722		20.321	59
8	17.702	18.004	18.303	18.292		19.199		19'719 19'716		20.251	8 7
		18.004	18·301	18.293	18.881	19.163		19 712	19'978	20,538	6
	17.701			18.293	18.879	19.160		19.705	19 969	20.552	5
	17.700		18.308	18.289	18.875	19.122	19.429	19.697		20.513	54
	17.699	18.001		18.286		19.148		19.686	19'944	20.106	3
		17.998		18.280		19,139		_		20.142	2
		17.994	18.287	18.573	18.854	19.127		19.652	19.904	20.148	1
	17.691	17.988	18.279	18.263	18.841	19,111	19.374	19.629	19.877	20.119	50
	39	38	37	36	35	34	33	32	31	30	
	39	J.	3/	<u> </u>	33	<u> </u>	- 33	<u></u>	<u> </u>	<u> </u>	

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VALUES OF TEMPORARY ANNUITIES OF 1

 $3^{\,\,\text{per}}_{\,\,\text{cent.}}$

Dura-	80	81	82	83	84	85	86	87	88	89	Dura-
tion.	3.843	3.595	3.356	3·127	2.907	2.697	2.498	2.307	2.127	1.956	tion.
0	.000	.000	.000	.000	.0 00	.000	.000	.000	.000	.0 00	0
1	·8 36	.825	.813	.800	·786	.771	755	.738	.720	'700	1
2	1.227	1.496	1.464	1,429	1,393	1.324	1,315	1.569		1.146	2
3	2.088	2.033	1.976	1.012	1.821	1.483	1.413	1.641	1.262	1.488	3
4	2.232	2.456	2.370	2,581	2.188	2.093	1,004	1.893	1.490	1.686	4
5	5.890	2.781	2.668	2.225	2,435	2.30 9	2.182	5.02 0	1.933	1.807	5
6 7	3,163	3.022	2.888	2.746	2.602	2.456	2.310	2'164	2.050	1.877	6
8	3.369	3.500	3'047	2.882	2.717	2.223 2.614	2.389	2.228	2.070	1.012	8
9	3.20 3.629	3.339	3°157 3°232	2.036 3.036	2.43 2.841		2°438 2°466	5.5 86	2.09 9	1'937	9
10	· ·	3.431	3.585	3.074	2.871		2.482	2.297	2,151		10
1	3.706 3.758	3°493 3°533	3.313	3.008	2.888	2.685	2.490	2.303	2.152	1,022	1
2	3'792	3 .223	3.332	3,111	2.898		2.494	2.306	5,159	1,929	2
3	3.814	3.575	3.344	3,110	2.003	2.695	2.496	2.307	2'127	1.956	3
4	3.827	3.284	3.320	3.153	2.905		2.497	2.304	2.122	89	
15	3.835	3.289	3'353	3.122	2.006	2.697	2.498	2.302	88		
6	3.839	3.292	3 '355	3.156	2.907		2.498	87		20	
7	3.841	3.293	3 '355	3.126	2.907	2.697	86	22	21	22.705	
8	3.842	3.594	3.326	3.122	2.902	85	22		22.481	22.705	82
9	3.843	3.594	3.356	3.152	84	24	23	22.252	22.481	22.705	ī
20	3.843	3.595	3.356	83	25	<u> </u>	22.019	22.222	22,481	22.705	80
$\begin{vmatrix} 1 \\ 2 \end{vmatrix}$	3.843	3.595	82	26		21.781	22,010	22.222	22.481	22.705	79
^	3 ^{.8} 43 80	81	27		21.539	21.481	22.019	_	22.481	22.705	8
		28		21.292	21.239	21.781	22.010		22.481	22.705	7
	29	90-500	21.041	21.392	21.239	21.481		22.52	22.481	22.404	6
	20.527	20.786	21'041	21,505	21.238		33.019		22.480	22.404	5
		20.786	21.041	21.592	21.238		22.019	22.52	22.480	22.404	74
73	20.222	20.786	21'041	-	21.238	21.781			22.480		3 2
2 1	20.22	20.786	21'041	_	21 530	21.781 21.781	22.018	22,521	22.480	22.703	ĺî
70	20.22	20.786	21'041			21.480			22.478		70
69	20.22	20.786	21'041	•	21.238				22.477	٠ :	69
8	20.22	20.786	21'041	_	21.232		22.019	1	22.475	22.696	8
7	20.22	20.786	21.041		21.237	21.778	1	22.246	22.471	- ا	7
6	20.256	20.786	21.040			21.777	22.013	22.242	22.467	22.686	В
5	20.256	20.785	21.039	21.589	21.234	21.774	22.000	22.538	22.461	22.679	5
64	20.256	20.784	21'038		21.232	21.771		22.535	22.454	22.669	64
3	20.25	20.783	21.036			21.766		1	22.444	22.657	3
2	20.254	20.481	21.034		21.253		21,000	22.514	22.431	22.641	2
1	20.22	20.779	21.030	-		21.751			22.415	22.622	60
60	20.212	20.775	21.022	_	ا ما	21.740	1	1 -	22.396		59
59 8		20.769 20.762		21,548		21.426		22,140	22.344		8
		20.752		21.533		21.687				-	7
8		20.739		51,512		21.661			22.271		8
		20.723	20.961			21.630			22.556		5
		20.703	20.937	21.163		21.293	21.795	_ '	22.175	22.352	54
	20.441	20.678		21.130		21.249	21.747	21'935	22.119	22.588	3
	20.412	20.648	20.873	21.000		21.200	21.691		22.020	22'217	2
	20.384	20.913	20.832	21'044	21.247	21'442	21.629		21.976	-	1
50	20'347	20.240	20.784	20.991	51.188	21.378	21.228	21.731	21.895	22.020	50
	29	28	27	26	25	24	23	22	21	20	

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VALUES OF TEMPORARY ANNUITIES OF 1

Dura-	90	91	92	93	94	95	96	97	98	99	Dura-
tion.	1.794	1.643	1.497	1.365	1.236	1.122	.1.009	·917	·826	·703	tion.
0	,000	.000	.000	,000	.000	.000	.000	.000	.000	,000	0
1	.679	·6 ₅ 8	.633	.610	.583	•558	.526	.202	.485	453	1
2	1.152	1.074	1.050	966	908	.852	.791	.746	.702	.642	2
3	1.408	1.328	1.542	1.162	1.079	1,000	.919	·8 ₅ 6	797	.703	3
4	1.281	1.476	1.371	1.569	1,192	1.073	. 977	.903	.826	99	
5	1.681	1.229	1'437	1.355	1.504	1.104	1,001	'917	98		
в	1.737	1.603	1'470	1'347	1.556	1,118	1,000	97		IO	
7	1.767	1.625	1.486	1,320	1,534	I'I 2 2	96		11	24.669	
8	1.782	1.635	1'493	1'364	1.536	95	72	12	24.496	24.669	
9	1.789	1.640	1'496	1.362	94	14		24.317	24:406	24.669	92 1
10	1.792	1.642	1'497	98	15		24.133	24:217	24 . 496	24.669	90
1	1.794	1.643	92	16	-3	23.945	04:722	24.317	24.496	- 1	89
2	1'794	91	17		23.751	23'945	24.133	24'317	24 496	24.669	8
	90	18		23.552	23.751		24.133	24'317	24.496		7
	19		23.347	23.252			24.133	24.317			6
		23.138	23'347	23.225	23.751		24.133	24'317	24'496	24.669	5
ł .	22.924	23.138	23'347	23.225			24.133		24.496	24.669	84
83	22.024	23.138		23.222						24'669	3
2	22.924	23.138	23'347	23.225			24.133		24.495	24.669	2
1	22.924	23.138		23.221						24.668	1
80	22.924	23'138	23'347	23.221			24'133	24.316		24.667	80
79	22.924	23.138	23'347	23.551	1	23'944	24'132	1	1	24.666	79
8	22.924	23'138		23.221			24.132		1	24.663	8
7	22.924	23.138	23'347	23.221				24'312		24.660	7
6	22.924	23.138				23'942	24.129			24.656	6
5	22.923	23.137	23.346	23.249	23'747	23.940	24.126	24.307	24.482	24.651	5
74	22.923	23.137	23'345	23.248	23.746	23.938	24.153	24.303	24.477	24.644	74
3	22.022	23.136	23'344	23.246	23'743	23.934	24.119	24.592	24'469	24.635	3
2	22.021	53.132	23.345	23.244	23.739	23.929	24'113	24.500	24'460		2
1	22.920	23.133		23.240			24'105			24.611	1
70	22,018	23.130	23.336	23.232	23.728		24.092	24.568	24.435	24.294	70
69	22.912	-	23.330	23.259				24.524	24.418	24'575	69
8	22'911	23.151		23.250				,		24.552	8
7	22'906	23'114		23.209			24'050			24.22	7
6 5	22.899	23.102		23.496		23.859	24.029	1		24.493	6
	22.889	23.093	23.500	23.479		23.836	24.003			24.457	5
64 3	22.877	23.041	23.273	23.459			23.973	24'128	24.576	24.417	64
2	22.863	23.040		23.436	-	23 ⁷⁷⁹	23.899 23.899		24.182	24.371	3 2
1		23.014	23.108	23 407	23.243	23.702			24°134	24.320	1
60		23.014	23.164	23.334	23'500	23.656	23.804	23,045	24.076		60
59		22.040				23.604	23'747	22.882	24'011		59
8	22.728	22.908	53.080	23,573	23.308	23.242	23.68	23.81	23.939		8
7		22.862				23.481	23.612	23'742	23.862		7
В		22.809		23.152		23.409			23.777	23.885	в
5	22.283	22.749			23.197		23.456	23.24	23.685	23.790	5
54		22.682		22.979		23.544			23.286		54
3		22.608				23.121			23.480		3
2	22.376	22.256		22.803			23.165		23.366		2
1		22.436		22.403			23.048				1
50		22.338		22.595					23'114	23.199	50
	19	18	17	16	15	14	13	12	II	10	
<u> </u>	-7	, 20			6	<u> </u>	-5				

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$3\frac{1}{2}$ PER CENT.

CONSTANTS.

Constant.	Number.	Logarithm.
i	·o35	2·544 068 o
(i+i)	1.032	0.014 940 3
$(1+i)^{\frac{1}{2}}$	1.017 349 2	0.007 470 3
$(1+i)^{\frac{1}{4}}$	1.008 637 4	0.003 432 1
ซ	·966 183 6	ī·985 059 7
$v^{\frac{1}{2}}$	·982 946 4	ī·992 529 8
v [‡]	. 991 436 5	ī·996 264 9
ď	·033 816 4	2.529 127 7
. 8	'034 401 4	2·536 576 5

 $\mathbf{0}_{\mathbf{M}}$

COMMUTATION TABLE

 $3^{1}_{\bar{2}}$ PER CENT.

l l	$\mathbf{D}_{m{x}}$	\mathbf{N}_{x}	\mathbf{S}_{x}	\mathbf{C}_{x}	\mathbf{M}_{x}	$\mathbf{R}_{m{x}}$	x
10 11 12 13 14	70 892 68 263 65 730 63 288 60 934	1 658 426 1 587 534 1 519 271 1 453 541 1 390 253	32 454 390 30 795 964 29 208 430 27 689 159 26 235 618	231.51 225.01 219.32 213.75 208.31	14 810 00 14 578 49 14 353 48 14 134 16 13 920 41	560 935 86 546 125 86 531 547 37 517 193 89 503 059 73	10 11 12 13 14
15 16 17 18 19	58 665 56 477 54 367 52 331 50 368	1 329 319 1 270 654 1 214 177 1 159 810 1 107 479	24 845 365 23 516 046 22 245 392 21 031 215 19 871 405	204'16 200'04 193'50 190'98	13 712'10 13 507'94 13 307'90 13 110'86 12 917'36	489 139.32 475 427.22 461 919.28 448 611.38 435 500.52	15 16 17 18 19
20 21 22 23 24	48 474 46 646 44 880 43 176 41 530	1 057 111 1 008 637 961 991 917 111 873 935	18 763 926 17 706 815 16 698 178 15 736 187 14 819 076	189·37 187·66 186·75 186·13	12 726·38 12 537·01 12 349·35 12 162·60 11 976·47	422 583·16 409 856·78 397 319·77 384 970·42 372 807·82	20 21 22 23 24
25 26 27 28 29	39 940 38 403 36 919 35 484 34 097	832 405 792 465 754 062 717 143 681 659	13 945 141 13 112 736 12 320 271 11 566 209 10 849 066	185.61 185.66 186.63 186.59	11 790.71 11 605.10 11 419.44 11 232.81 11 046.22	360 831 35 349 040 64 337 435 54 326 016 10 314 783 29	25 26 27 28 29
30 31 32 33 34	3 ² 757 3 ¹ 46 ¹ 30 209 28 998 27 827	647 562 614 805 583 344 553 135 524 137	10 167 407 9 519 845 8 905 040 8 321 696 7 768 561	188·30 188·58 189·27 189·70	10 858.82 10 670.52 10 481.94 10 292.67 10 102.97	303 737°07 292 878°25 282 207°73 271 725°79 261 433°12	30 31 32 33 34
35 36 37 38 39	26 696 25 603 24 547 23 526 22 540	496 310 469 614 444 011 419 464 395 938	7 244 424 6 748 114 6 278 500 5 834 489 5 415 025	190'42 190'75 190'57 190'57	9 913'09 9 722'67 9 531'97 9 341'22 9 150'65	251 330°15 241 417°06 231 694'39 222 162'42 212 821'20	35 36 37 38 39
40 41 42 43 44	21 587 20 666 19 776 18 916 18 085	373 398 351 811 331 145 311 369 292 453	5 019 087 4 645 689 4 293 878 3 962 733 3 651 364	190.83 191.36 191.49	8 959'70 8 768'87 8 577'89 8 386'53 8 195'04	203 670·55 194 710·85 185 941·98 177 364·09 168 977·56	40 41 42 43 44
45 46 47 48 49	17 281 16 504 15 753 15 026 14 322	274 368 257 087 240 583 224 830 209 804	3 358 911 3 084 543 2 827 456 2 586 873 2 362 043	192'52 193'36 194'30 195'33 196'78	8 003.01 7 810.49 7 617.13 7 422.83 7 227.50	160 782.52 152 779.51 144 969.02 137 351.89 129 929.06	45 46 47 48 49
50 51 52 53 54	13 641 12 982 12 343 11 723 11 123	195 482 181 841 168 859 156 516 144 793	2 152 239 1 956 757 1 774 916 1 606 057 1 449 541	198·26 200·08 201·87 203·78 206·09	7 030·72 6 832·46 6 632·38 6 430·51 6 226·73	122 701 56 115 670 84 108 838 38 102 206 00 95 775 49	50 51 52 53 54

 $\mathbf{N}_x = \mathbf{D}_x + \mathbf{D}_{x+1} + \dots$ $\mathbf{S}_x = \mathbf{N}_x + \mathbf{N}_{x+1} + \dots$

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COMMUTATION TABLE

 $3^{\frac{1}{2}}_{\text{CENT.}}^{\text{PER}}$

x	\mathbf{D}_{x}	N_x	S_x	\mathbf{C}_{x}	\mathbf{M}_{x}	R_x	x
55 56 57 58 59	10 541' 9 976'1 9 428'2 8 896'4 8 380'3	133 670° 123 129'4 113 153'3 103 725'1 94 828'7	1 304 748 1 171 077 9 1 047 948 5 934 795 2 831 070 1	208:30 210:54 212:94 215:33 217:69	6 020.64 5 812.34 5 601.80 5 388.86 5 173.53	89 548·76 83 528·12 77 715·78 72 113·98 66 725·12	55 56 57 58 59
60 61 62 63 64	7 879'2 7 393'0 6 921'1 6 463'5 6 019'9	86 448.4 78 569.2 71 176.2 64 255.1 57 791.6	736 241 4 649 793 0 571 223 8 500 047 6 435 792 5	219 [.] 78 221 [.] 82 223 [.] 59 224 [.] 99	4 955 84 4 736 06 4 514 24 4 290 65	61 551 59 56 595 75 51 859 69 47 345 45 43 054 80	60 61 62 63 64
65 66 67 68 69	5 590'3 5 174'6 4 773'1 4 385'7 4 012'8	51 771.7 46 181.4 41 006.8 36 233.7 31 848.0	378 000'9 326 229'2 280 047'8 239 041'0 202 807'3	226·66 226·58 225·95 224·55	3 612.96 3 839.62	38 989·14 35 149·52 31 536·56 28 150·18 24 989·75	65 66 67 68 69
70 71 72 73 74	3 654.8 3 312.0 2 984.9 2 674.0 2 379.7	27 835 ² 24 180 ⁴ 20 868 ⁴ 17 883 ⁵ 15 209 ⁵	170 959'3 143 124'1 118 943'7 98 075'3 80 191'8	219.18 219.18	2 713·52 2 494·34 2 279·21 2 069·24 1 865·35	22 053.87 19 340.35 16 846.01 14 566.80	70 71 72 73 74
75 76 77 78 79	2 102.7 1 843.4 1 602.1 1 379.5 1 175.7	12 829 8 10 727 1 8 883 7 7 281 6 5 902 1	64 982.3 52 152.5 41 425.4 32 541.7 25 260.1		1 668·81 1 480·60 1 301·73 1 133·28 976·07	10 632·21 8 963·40 7 482·80 6 181·07 5 047·79	75 76 77 78 79
80 81 82 83 84	990'71 824'69 677'28 548'10 436'51	4 726·35 3 735·64 2 910·95 2 233·67 1 685·57	19 357'97 14 631'62 10 895'98 7 985'03 5 751'36	132°52 119°52 106°27 93°061 80°192	830·88 698·36 578·84 472·568 379·507	4 071'72 3 240'84 2 542'48 1 963'642 1 491'074	80 81 82 83 84
85 86 87 88 89	341.55 262.13 197.00 144.66 103.58	1 249'06 907'51 645'38 448'38 303'72	4 065'79 2 816'73 1 909'22 1 263'84 815'46	67.880 56.257 45.684 36.182 27.903	299 ³ 15 231 ⁴ 35 175 ¹ 78 129 ⁴ 94 93 ³ 12	1 111.567 812.252 580.817 405.639 276.145	85 86 87 88 89
90 91 92 93 94	72.177 48.763 31.916 20.109	200°138 127°961 79°198 47°282 27°173	511'738 311'600 183'639 104'441 57'159	20.973 15.198 10.728 7.212 1 4.721 6	65 [.] 409 44 [.] 436 29 [.] 238 18 [.] 510 3	182.833 117.424 72.988 43.750 3 25.240 0	90 91 92 93 94
95 96 97 98 99	7.082 4 3.936 5 2.061 6 1.030 3		29 985 8 15 030 1	2°906 4 1°741 7	6·576 6 3·670 2 1·928 5 ·966 9	13.941 8 7.365 2 3.695 0 1.766 5	95 96 97 98
100 101 102	°224 4 °092 9 °029 9	'347 2 '122 8 '029 9	499 9	·123 9 ·059 9	°21 2 7	*330 4	100 101

 $N_x = D_x + D_{x+1} + \dots$ $S_x = N_x + N_{x+1} + \dots$

 0^{M} logarithms and co-logarithms of D_x , N_x , C_x , M_x $3^{\frac{1}{2}}_{\text{cent.}}$

x	$\log D_x$	$\log N_x$	$\log C_x$	$\log M_x$	$\operatorname{col} \operatorname{D}_{x}$	$\operatorname{col} \mathbb{N}_x$	$\operatorname{col} \mathbf{C}_{\boldsymbol{x}}$	$\operatorname{col} \mathbf{M}_x$	\boldsymbol{x}
10 11 12 13 14	4·850 60 ·834 19 ·817 76 ·801 32 ·784 86	6'219 70 '200 72 '181 63 '162 43 '143 10	2'364 57 '352 19 '341 07 '329 91 '318 72	4'170 56 '163 71 '156 96 '150 27 '143 65	5'149 40 '165 81 '182 24 '198 68 '215 14	7·780 30 ·799 28 ·818 37 ·837 57 ·856 90	3.635 43 .647 81 .658 93 .670 09 .681 28	5·829 44 ·836 29 ·843 04 ·849 73 ·856 35	10 11 12 13 14
15 16 17 18 19	768 38 751 87 735 33 718 76 702 16	123 63 104 03 084 28 064 38	309 96 301 11 294 55 286 68 280 98	'137 10 '130 59 '124 11 '117 63 '111 18	231 62 248 13 264 67 281 24 297 84	.876 37 .895 97 .915 72 .935 62 .955 67	'690 04 '698 89 '705 45 '713 32 '719 02	·862 90 ·869 41 ·875 89 ·882 37 ·888 82	15 16 17 18 19
20 21 22 23 24 25	685 51 668 81 652 06 635 24 618 36	024 12 003 73 5 983 17 962 42 941 48	'277 32 '273 37 '271 27 '269 82 '268 96	'098 19 '098 64 '085 03 '078 33	'314 49 '331 19 '347 94 '364 76 '381 64 '398 60	975 88 996 27 6 016 83 037 58 058 52	722 68 726 63 728 73 730 18 731 04	.895 29 .901 81 .908 36 .914 97 .921 67	20 21 22 23 24 25
26 27 28 29 30	584 37 567 25 550 03 532 72	.898 98 .877 41 .855 60 .833 57	208 01 268 71 270 98 270 88 272 78	071 54 064 65 057 65 050 49 043 22 035 78	'415 63 '432 75 '449 97 '467 28	'101 02 '122 59 '144 40 '166 43	731 39 '731 29 '729 02 '729 12 '727 22 '727 16	935 35 942 35 949 51 956 78	26 27 28 29
31 32 33 34 35	'497 77 '480 13 '462 36 '444 47 '426 45	788 74 765 92 742 84 719 45	275 49 277 08 277 08 278 07 278 49	'028 19 '020 44 '012 53 '004 45 3'996 21	.502 23 .519 87 .537 64 .555 53	'211 26 '234 08 '257 16 '280 55	724 51 722 92 721 93 721 51	.971 81 .979 56 .987 47 .995 55 4.003 79	31 32 33 34 35
36 37 38 39 40	'408 30 '389 99 '37 1 55 '35 2 95 '334 18	671 74 647 39 622 69 597 63	280 35 280 46 280 05 280 91 280 65	.987 79 .979 18 .970 40 .961 45	'591 70 '610 01 '628 45 '647 05 '665 82	328 26 352 61 377 31 402 37 427 83	719 65 719 54 719 95 719 09 719 35	°012 21 °020 82 °029 60 °038 55 °047 71	36 37 38 39 40
41 42 43 44 45	'315 25 '296 14 '276 83 '257 31 '237 57	'546 31 '520 02 '493 28 '466 06 '438 34	280 99 281 84 282 14 283 37 284 48	'942 95 '933 38 '923 58 '913 55 '903 25	.684 75 .703 86 .723 17 .742 69 .762 43	'453 69 '479 98 '506 72 '533 94 '561 66	719 01 718 16 717 86 716 63	057 05 066 62 076 42 086 45	41 42 43 44 45
46 47 48 49 50	'197 36 '197 36 '176 84 '156 01	'410 08 '381 27 '351 85 '321 81 '291 10	286 36 288 47 290 76 293 98	·892 68 ·881 79 ·870 57 ·858 99 ·847 00	.782 41 .802 64 .823 16 .843 99 .865 15	.589 92 .618 73 .648 15 .678 19	713 64 711 53 709 24 706 02	118 21 129 43 141 01	46 47 48 49 50
51 52 53 54	113 33 1091 41 1069 05 1046 23	*259 69 *227 53 *194 56 *160 75	'301 20 '305 07 '309 16 '314 05	·834 58 ·821 67 ·808 24 ·794 26	·886 67 ·908 59 ·930 95 ·953 77	'740 31 '772 47 '805 44 '839 25	·698 80 ·694 93 ·690 84 ·685 95	165 42 178 33 191 76 205 74	51 52 53 54

 $\mathbf{N}_x = \mathbf{D}_x + \mathbf{D}_{x+1} + \dots$ $\mathbf{S}_x = \mathbf{N}_x + \mathbf{N}_{x+1} + \dots$

OM LOGARITHMS AND CO-LOGARITHMS OF D_x , N_x , C_x , M_x $3\frac{1}{2}$ per cent.

	, D	, TAT	1.0	1 M	1.0	1 NT	10	ı M	
\boldsymbol{x}	$\log D_x$	$\log N_x$	$\log C_x$	$\log M_x$	$\operatorname{col} \operatorname{D}_{\boldsymbol{x}}$	$\operatorname{col} \mathbf{N}_x$	$\operatorname{col} \mathbf{C}_{x}$	$\operatorname{col} \mathbf{M}_x$	x
55	4.022 88	5.136 03	2.318 68	3.779 64	5.977 12	6.873 97	3.681 32	4:220 36	55
56	3.998 96	·090 36	323 33	'764 35	4'001 04	909 64	676 67	.235 65	56
57	974 43	.053 67	'328 25	'748 33	*025 57	946 33	671 75	251 67	57
58	'949 22	.012 88	.333 10	'731 50	·o5o 78	984 12	'666 90	268 50	58
59	923 26	4.976 94	'337 ⁸ 4	71378	.076 74	5.023 06	'662 16	.586 55	59
60	·896 4 8	936 76	'341 98	.692 11	103 52	·063 24	658 02	304 89	60
61	·868 8 ₂	·895 2 5	*346 00	675 42	.131 18	104 75	'654 00	*324 58	61
62	'840 18	·852 33	'349 46	654 58	159 82	147 67	'650 54	345 42	62
63	·810 47	807 91	352 17	632 53	·189 5 3	192 09	647 83	367 47	63
64	779 59	·761 87	354 19	.609 13	'220 4 I	.538 13	.645 81	390 87	64
65	747 44	71409	355 37	.584 29	252 56	*285 91	644 63	41571	65
6 6	713 88	'664 46	355 21	.557 86	. 286 12	335 54	644 79	442 14	66
67	.678 80	612 86	354 01	529 74	321 20	'387 14	645 99	470 26	67
68	'642 04	.229 11	351 31	'499 75	357 96	440 89	648 69	.200 25	68
69	603 45	.203 08	'347 °5	'467 74	.396 22	·496 92	652 95	·532 26	69
70	.262 86	'444 59	'340 81	433 53	'437 14	·555 41	659 19	·566 47	70
71	.20 09	. 38 3 46	·332 70	.396 96	'479 91	616 54	'667 30	603 04	71
72	474 93	319 49	322 15	357 78	.25 07	·68o 51	677 85	642 22	72
78	427 16	252 45	309 39	31581	572 84	747 55	.690 61	684 19	73
74	.376 52	'182 12	293 44	.270 76	623 48	.817 88	.706 56	'729 24	74
75	322 77	108 22	'274 64	222 40	·677 23	·891 78	725 36	777 60	75
76	265 61	.030 48	252 54	170 44	[.] 734 39	969 52	'747 46	829 56	76
77	204 70	3.948 59	226 47	114 52	795 30	4.021 41	773 53	·885 48	77
78	139 72	.862 23	196 47	°054 34	·86 o 28	137 77	803 53	945 66	78
79	.070 28	771 01	.161 94	2.989 48	929 72	.228 99	1	3.010 25	79
80	2.992 94	674 53	122 27	919 54	3.004 06	325 47	·877 73	·08o 46	80
81	916 29	572 36	'077 44	'844 08	.083 71	427 64	922 56	155 92	81
82	830 77	'464 04	026 42	762 56	169 23	535 96	973 58	237 44	82 83
83 84	738 86	'349 02 '226 75	1.968 77	674 47	'261 14 '360 01	650 98	2.031 23	'325 53 '420 78	84
	639 99		'904 13	'579 22	-	773 25	.095 87		
85	533 46	•096 58	'831 74	'476 13	466 54	903 42	168 26	523 87	85
86	'418 51	2.957 85	750 18	'364 43	.281 49	3.042 12	249 82	635 57	86
87	°294 47 °160 34	·809 82	659 76	243 48	'7°5 53	.190 18	340 24	.756 52 .887 75	87 88
88 89	015 29	482 47	.558 49 .445 65	112 25	·839 66 ·984 71	348 35	'441 51 '554 35	2.030 06	89
						517 53			
90	1.858 40	301 33	321 67	·815 64	2.141 60	698 67	.678 33 .818 21	184 36	90 91
92	504 01	1.898 21	181 79	.647 74 .465 95	'311 91 '495 99	.892 93	969 50	'352 26 '534 05	92
93	303 39	674 70	0.858 o6	267 42	.696 61	325 30	1.141 94	732 58	93
94	086 97	434 14	.674 09	053 01	.913 03	565 86	325 91	946 99	94
95	0.820 18	17481	l	1	1.140 85	1 1 1		1.185 00	95
96	595 11	0.896 16	240 98	.264 69		1.825 19 1.103 84	759 02	'435 31	96
97	314 21	595 14	ī.983 oo	285 22	685 79	404 86	0.014 00	714 78	97
98	012 97	273 05	697 00	ī·985 38	987 03	726 95	.303 00	0.014 62	98
99	1.697 00	1.926 81	409 06		0.303 00	c·073 19	590 94	328 64	99
100	351 06	.540 58	.093 08	327 77	.648 94	'459 42	906 92	'	100
101	2.968 15	'089 20	2.777 11	2.948 41	1.031 82	.910 80	1'222 89	1.051 59	101
102	476 08	2·476 08	461 14	461 14	523 92	1.523 92	·538 86	·538 86	102
<u> </u>		<u> </u>	<u> </u>				1		·

 $N_x = D_x + D_{x+1} + \dots$ $S_x = N_x + N_{x+1} + \dots$

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VALUES OF a_{x} , A_{x} , P_{x} , and of \overline{a}_{x} , \overline{A}_{x} , \overline{P}_{x}

31 PER

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\boldsymbol{x}	a_x	\mathbf{A}_{x}	P_{z}	\overline{a}_x	$\overline{\mathbf{A}}_{m{x}}$	$\overline{\mathrm{P}}_{x}$	x
10	22'393	20 891	'00 893	22.890	'21 255	'00 929	10
11	22'256	21 356	'00 918	22.753	'21 726	'00 955	11
12	22'114	21 837	'00 945	22.611	'22 215	'00 982	12
13	21'967	22 333	'00 972	22.464	'22 721	'01 011	13
14	21'816	22 845	'01 001	22.313	'23 240	'01 042	14
15 16 17 18 19	21.660 21.499 21.333 21.163 20.987	'23 373 '23 918 '24 478 '25 054 '25 646	°01 032 °01 063 °01 130 °01 166	22'157 21'996 21'830 21'660 21'484	23 777 24 331 24 902 25 487 26 092	'01 073 '01 106 '01 141 '01 177 '01 214	15 16 17 18 19
20	20.808	·26 254	'01 204	21'305	26 708	'01 254	20
21	20.623	·26 877	'01 243	21'120	27 344	'01 295	21
22	20.434	·27 516	'01 284	20'931	27 994	'01 337	22
23	20.241	·28 170	'01 326	20'738	28 658	'01 382	23
24	20.044	·28 838	'01 370	20'541	29 336	'01 428	24
25	19.842	'29 522	'01 416	20'339	'30 031	°01 477	25
26	19.635	'30 219	'01 464	20'132	'30 743	°01 527	26
27	19.425	'30 931	'01 514	19'922	'31 465	°01 579	27
28	19.211	'31 656	'01 566	19'708	'32 202	°01 634	28
29	18.992	'32 397	'01 620	19'489	'32 955	°01 691	29
30	18.769	'33 150	°01 677	19.266	'33 722	'01 750	30
31	18.542	'33 917	°01 736	19.039	'34 503	'01 812	31
32	18.311	'34 698	°01 797	18.808	'35 298	'01 877	32
33	18.075	'35 495	°01 861	18.572	'36 110	'01 944	33
34	17.835	'36 306	°01 928	18.332	'36 935	'02 015	34
35	17.591	'37 133	'01 997	18.088	'37 775	*02 088	35
36	17.342	'37 974	'02 070	17.839	'38 631	*02 166	36
37	17.088	'38 832	'02 147	17.584	'39 509	*02 247	37
38	16.830	'39 705	'02 227	17.326	'40 396	*02 332	38
39	16.566	'40 598	'02 311	17.062	'41 304	*02 421	39
40	16·298	'41 506	°02 400	16·794	'42 226	°02 514	40
41	16·024	'42 433	°02 492	16·520	'43 169	°02 613	41
42	15·745	'43 375	°02 590	16·241	'44 129	°02 717	42
43	15·461	'44 335	°02 693	15·957	'45 106	°02 827	43
44	15·172	'45 315	°02 802	15·668	'46 100	°02 942	44
45	14 [.] 877	'46 311	°02 917	15'373	'47 115	°03 065	45
46	14 [.] 577	'47 325	°03 038	15'073	'48 147	°03 194	46
47	14 [.] 272	'48 354	°03 166	14'768	'49 196	°03 331	47
48	13 [.] 963	'49 400	°03 302	14'459	'50 259	°03 476	48
49	13 [.] 649	'50 464	°03 445	14'145	'51 339	°03 629	49
50 51 52 53 54	13.330 13.008 12.681 12.351	.51 541 .52 632 .53 735 .54 852 .55 980	°03 597 °03 757 °03 928 °04 109 °04 300	13.826 13.504 13.177 12.847 12.513	'52 437 '53 544 '54 669 '55 804 '56 953	°03 793 °03 965 °04 149 °04 344 °04 552	50 51 52 53 54
53	12.681 12.351	*53 735 *54 852	.03 928 .04 109	13'177 12'847	°54 669 °55 804	°04 1	49 844

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VALUES OF a_x , A_x , P_x , AND OF \overline{a}_x , \overline{A}_x , \overline{P}_x

 $\mathbf{S}_{\overline{2}}^{1}$ PER

x	a_x	\mathbf{A}_{x}	P_x	\overline{a}_x	$\overline{\mathbf{A}}_{m{x}}$	$\overline{\mathrm{P}}_{m{x}}$	\boldsymbol{x}
55 56	11.981	·57 116 ·58 263	°04 504	12.176	·58 113 ·59 276	°04 773	55 56
57	11.001	59 416	'04 951	11.496	60 452	05 259	57
58	10.659	60 573	.05 195	11.124	61 629	05 525	58
59	10.316	61 733	05 456	10.811	62 809	·05 810	59
60	9'972	62 897	°05 733	10.467	63 992	' 06 114	60
61	9.627	64 062	°06 028	10,155	65 179	'06 439	61
62	9'284	65 223	.06 342	9.778	66 361	·o6 787	62
63	8.941	·66 3 83	.06 678	9.435	67 541	.07 158	63
64	8.600	67 537	.07 035	9'094	68 715	.07 556	64
65	8.361	68 683	°07 416	8.754	·69 883	07 983	65
66	7.925	69 820	07 823	8'418	71 041	·08 439	66
67	7.591	70 948	08 258	8.084	72 189	.08 930	67
68	7.262	72 063	.08 722	7.754	73 323	·09 456	68
69	6.937	73 163	09 218	7.429	74 444	10 021	69
70	6.616	74 245	·09 749	7.108	75 547	10 628	70
71	6.301	75 313	10 316	6.792	·76 633	11 282	71
72	2,001	·76 357	10 922	6.482	77 700	·11 986	72
73	5.688	77 384	11 571	6.149	.78 745	12 745	78
74	2,301	·78 386	12 264	5.881	79 767	13 563	74
75	5.105	79 365	13 007	5.291	·8o 766	14 446	75
76	4.819	·80 321	13 803	5.308	·81 740	15 399	76
77	4 545	81 249	13 653	5.033	·82 686	16 429	77
78	4·278	·82 152	15 564	4.766	.83 606	17 544	78
79	4.050	83 023	16 538	4.206	·84 497	18 751	79
80		·83 869	17 580	4.256	.85 359	20 057	80
81	3.221 3.220	·84 682	17 500	4'014	.86 191	21 473	81
82	3.538	·85 465	19 885	3.781	·86 993	23 008	82
83	3.072	86 220	21 157	3.557	·87 763	.24 673	83
84	2.861	·86 942	22 515	3'342	·88 504	26 484	84
85	2.657	·87 633	·23 963	3,136	.89 212	28 450	85
86	2.465	·88 292	25 502	2.939	.89 889	30 583	86
87	2.526	·88 922	27 143	2.751	90 535	32 906	87
88	2,100	89 518	·28 88o	2.23	91 149	35 427	88
89	1.932	·96 084	'30 723	2.403	'91 733	38 171	89
90	1.773	90 623	32 682	2'241	92 289	41 173	90
91	1.624	91 128	34 727	2.000	92 810	44 404	91
92	1'481	91 609	36 918	1'945	.93 310	47 984	92
93	1.321	92 051	39 149	1.811	93 769	.51 769	93
94	1.524	92 478	41 579	1.681	94 218	.26 022	94
95	1,115	92 858	43 973	1.264	·94 618	.60 478	95
96	1,000	92 030	45 973	1.449	95 016	65 582	96
97	,010	93 543	48 987	1.324	95 343	70 431	97
98	.820	93 845	.51 562	1.529	95 668	75 969	98
99	.698	94 267	55 533	1,131	·96 108	· 84 94 6	99
100	.547	94 779	61 262	. 975	·96 645	.99 110	100
101	322	95 556	72 312	.744	97 442	1.31 052	101
102	.000	.96 618	96 618	414	98 574	2.37 861	102
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LOGARITHMS OF a_x , A_x , P_x , and of \overline{a}_x , \overline{A}_x , \overline{P}_x 3 Per cent.

\boldsymbol{x}	$\log \mathbf{a}_x$	$\log A_x$	$\log P_x$	$\log \overline{a}_x$	$\log \overline{\mathbf{A}}_{x}$	$\log \overline{\mathrm{P}}_x$	\boldsymbol{x}
10	1'369 10	ī·319 96	3.950 86	1'359 65	ī·327 46	3.967 82	10
11	'366 53	·329 52	.962 99	'357 04	·336 98	.979 95	11
12	'363 87	·339 20	.975 33	'354 32	·346 65	.992 32	12
13	'361 11	'348 95	987 84	'351 49	'356 43	2.004 92	13
14	'358 24	'358 79	2.000 55	'348 56	'366 24	.017 66	14
15	'355 ² 5	368 72	°013 47	'345 51	'376 16	°030 64	15
16	'352 16	378 72	°026 56	'342 34	'386 16	°043 79	16
17	'348 95	388 78	°039 83	'339 05	'396 23	°057 17	17
18	'345 62	398 87	°053 25	'335 66	'406 32	°070 67	18
19	'342 17	409 02	'066 85	332 12	'416 51	°084 40	19
20	'338 61	419 20	'080 59	328 48	'426 64	°098 16	20
21	'334 92	429 38	'094 46	324 69	'436 86	°112 17	21
22	'331 11	439 58	'108 47	320 79	'447 07	°126 29	22
23	'327 18	449 79	'122 61	316 77	'457 25	°140 48	23
24 25 26 27 28 29	323 12 318 94 314 61 310 16 305 57 300 85	'459 97 '470 14 '480 28 '490 40 '500 46 '510 50	136 85 151 20 165 67 180 24 194 89	'312 62 '308 33 '303 89 '299 33 '294 64 '289 79	'467 40 '477 57 '487 75 '497 83 '507 88 '517 92	'154 79 '169 23 '183 87 '198 49 '213 23 '228 14	24 25 26 27 28 29
30	295 98	520 48	*224 50	·284 79	527 91	'243 11	30
31	290 97	530 42	*239 45	·279 64	537 86	'258 21	31
32	285 79	540 31	*254 52	·274 34	547 75	'273 39	32
33	280 48	550 17	*269 69	·268 86	557 63	'288 76	33
34	274 98	559 98	*285 00	·263 21	567 44	'304 23	34
35	'269 30	569 76	'300 46	'257 39	'577 20	319 81	35
36	'263 44	579 49	'316 05	'251 37	'586 94	335 58	36
37	'257 40	589 19	'331 79	'245 12	'596 70	351 56	37
38	'251 14	598 85	'347 71	'238 70	'606 34	367 64	38
39	'244 68	608 50	'363 82	'232 03	'615 99	383 96	39
40	'237 99	618 11	'380 12	'225 15	.625 58	400 43	40
41	'231 06	627 70	'396 64	'218 01	.635 17	417 16	41
42	'223 88	637 24	'413 36	'210 61	.644 72	434 11	42
43	'216 45	646 75	'430 30	'202 95	.654 23	451 28	43
44	'208 75	656 24	'447 49	'195 01	.663 70	468 69	44
45 46 47 48 49	'200 77 '192 49 '183 91 '175 01 '165 80	.665 68 .675 09 .684 43 .693 73	464 91 482 60 500 52 518 72 537 18	'186 76 '178 20 '169 32 '160 14 '150 60	.673 16 .682 57 .691 93 .701 21	.486 40 .504 36 .522 61 .541 08 .559 85	45 46 47 48 49
50	156 25	712 15	555 90	'140 70	719 64	578 94	50
51	146 36	721 25	574 89	'130 46	728 71	598 25	51
52	136 12	730 26	594 14	'119 82	737 74	617 92	52
53	125 51	739 19	613 68	'108 80	746 67	637 87	53
54	114 52	748 03	633 51	'097 36	755 52	658 15	54
		,,,,,,	333	,,,,			

OM

logarithms of a_x , A_x , P_x , and of \overline{a}_x , \overline{A}_x , \overline{P}_x

 $\mathbf{3}\frac{1}{2}$ PER

\boldsymbol{x}	$\log a_x$	$\log A_x$	$\log P_x$	$\log \overline{a}_x$	$\log \overline{\mathbf{A}}_{x}$	$\log \overline{\overline{\mathrm{P}}_{x}}$	x
55	1'103 15	ī·756 76	2.653 61	1.082 20	ī·764 27	2.678 76	55
56	'091 40	765 39	673 99	'073 28	772 88	699 59	56
57	'079 24	773 90	694 66	.060 55	781 41	720 86	57
58	.066 66	782 28	715 62	'047 43	789 79	742 36	58
59	.053 68	790 52	736 84	033 87	798 02	764 15	59
60	'040 28	798 63	758 35	'019 82	806 13	786 30	60
61	'026 43	.806 60	'780 17	'005 27	'81411	'808 84	61
62	'012 15	.814 40	802 25	0'990 26	821 91	831 65	62
63	0'997 44	822 06	824 62	974 76	'829 57	*854 80	63
64	982 28	.829 54	847 26	958 75	837 05	*878 30	64
65	'966 65	'836 85	1870 20	'942 23	*844 37	'902 14	65
66	950 58	843 98	893 40	925 21	851 51	926 30	66
67	934 06	850 94	916 88	907 64	.858 47	'950 83	67
68	917 07	857 71	940 64	889 55	865 24	975 69	68
69	-899 63	864 29	964 66	870 92	871 83	1,000 91	69
70	881 73	.870 67	988 94	-851 75	878 22	'026 45	70
71	863 37	87687	1.013 20	832 03	.884 42	'052 39	71
72	'844 56	882 85	'038 29	81174	*890 42	.078 67	72
73	825 29	-888 65	'063 36	790 89	896 22	105 34	73
74	805 60	-894 24	.088 64	'769 48	901 82	132 36	74
75	785 45	899 63	114 18	'747 49	907 23	159 75	75
76	'764 87	'904 83	139 96	724 93	912 43	187 49	76
77	743 89	909 82	165 93	'701 82	'917 43	*21561	77
78	722 51	914 62	192 11	678 12	922 24	'244 13	78
79	700 73	'919 20	'218 47	.653 83	926 84	273 02	79
80	678 59	923 60	'245 01	628 99	931 25	'302 27	80
81	656 07	'927 79	271 72	.603 58	935 46	'331 89	81
82	*633 27	'931 79	298 52	'577 61	939 48	'361 88	82
83	.610 16	'935 61	325 45	.221 08	'943 31	392 22	83
84	.586 76	939 23	352 47	523 98	'946 96	'422 98	84
85	.563 12	942 67	379 55	'496 35	950 42	'454 08	85
86	539 34	945 92	'406 58	'468 23	'953 71	'485 48	86
87	'515 35	'949 01	'433 66	'439 54	956 82	'517 28	87
88	'491 31	.951 91	'460 60	'410 42	959 75	'549 33	88
89	'467 18	954 65	487 47	'380 79	962 53	'581 73	89
90	'442 93	957 24	'514 31	'350 54	965 15	61461	90
91	'418 98	'959 65	'540 67	'320 17	'967 59	647 42	91
92	39470	961 94	'567 24	.588 83	'969 93	.681 10	92
93	371 31	964 03	592 72	'257 99	972 06	714 07	93
94	347 17	966 04	618 87	'225 52	974 13	'748 61	94
95	324 63	967 82	643 19	194 38	'975 97	781 60	95
96	.301 02	'969 58	668 53	.191 01	'977 80	.816 79	96
97	'280 93	'971 01	.690 08	.131 25	'979 29	.847 76	97
98	260 08	'972 41	712 33	100 13	980 77	·88o 64	98
99	.229 81	'974 36	'744 55	053 62	982 76	'929 14	1 - 33
100	189 52	'976 71	787 19	1.989 06	'985 18	996 12	100
101	121 05	980 26	'859 21	.871 30	'988 75	0'117 44	101
102	.000 00	985 06	985 06	617 44	'993 76	376 32	102

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VALUES OF TEMPORARY ANNUITIES OF 1

	IO	II	12	13	14	15	16	17	18	19	
Dura- tion.	22:393	22.256	22.114	21.967	21.816	21.660	21:499	21:333	21.163	20.987	Dura- tion.
<u> </u>			ļ	,000	.000	,000	.000	.000	'000	,000	0
	963	.000	.000	.963	963	963	963	963	962	962	ı
2	1.890	1.890	1.890	1.890	1.890	1.889	1.889	1.889	1.889	1.889	2
3	2.783	2.783	2.782	2.782	2.782	2.781	2.781	2.481	2.780	2.780	3.
4	3.642	3.642	3.642	3.641	3.641	3.640	3.639	3.639	3.638	3.637	4
_	•			4.468	4.467	4.466	4.462	4.464	4.463	4.461	_
5 6	4°470 5°267	4°469 5°266	4.469 5.265	5.264	5.263	5°261	5.500	5.228	5.256	5'254	5 6
7	6.033	6.035	6.031	6.030	6.058	6.036	6.024	6.055	6.050	6.017	7
8	6.772	6.770	6.769	6.767	6.765	6.762	6.760	6.757	6.753	6.420	8
9	7.482	7.480	7.478	7.476	7.473	7.470	7.467	7.463	7.459	7.454	9
ľ	8.199	8.164	8.191	8.128				8'142	8.132	8.131	
10	8.824	8.821	8.818	8.814	8.810 8.122	8·151	8.801	8.795	8.789	8.781	10 1
2			9.450	9'446	9'441	9.435	9'429	9.422	9.415	9.406	2
3	9°457 10°066	9'454	10.022	10.02	10.042		10'033	10.022	10.019	10.006	3
4	10.62	10.647	10.642	10:636		10.651	10.613	10.603	10.203	10.285	4
			· ·		11,188	11,180	_	_	11'147	11.134	_
15 6	11.512	11'210	11,503	11.196	11.726	11.416	11.140	11.120	11.679	11.664	15 6
7	11.757	11.421	11.743	11.735	12'242	12.531	15,518	12.504	12.180	12'172	7
8	12.778	12.770	12.760	12.750	12.738	12.725	12.210	12.695	12.678	13.660	8
9	13.529	13.520	13,539	13.552		13,199	13.183	13.166	13.142	13'127	9
		_ •		13.685				13.918			
20 1	13.721	13.711	13.699		13.671	13.654	13.637	14'050	13.597	13.574	20 1
2	14.162	14.123	14'140	14.122	14'109	14.2091	14.488	14.465	14.440	14'413	2
3	15.000	14 576	14.969	14'951	14.932	14 509	14.887	14.862	14.835	14.806	3
4	15.393	15'377	12.329	12.339	12.318	15'295	15.569	15'242	15,513	12.181	4
25			l .					12.606			25
6	15'769 16'130	15.752	15.732	16.064	15.688	15.663	15.635	15'954	15.574	15.240	6
7	16.477	16.456	16.433	16.408	16.381	16.325	16.350	16.586	16.50	16.511	7
8	16.800	16.436	16.761	16.735	16.706	16.674	16.641	16.604	16.266	16.524	8
9	17'127	17.103	17.076	17.047	17.016	16.983	16.947	16.908	16.867	16.822	9
30	17'431	17.405	17.377	17.346	17.313	17.277	17.239	17.198	17'154	17'107	30
1	17.723	17.695	17.665	17.632	17.597	17.559	17.218	17.474	17.428	17.378	1
2	18.003	17.972	17.940	17.905	17.867		17.784	17.737	17.688	17.635	2
3	18.568	18.537	18.503	18.166	18.136	18.083	18.037	17.988	17.936	17.880	3
4	18.523	18.490	18'454	18.415	18.373	18.327	18.279	18.227	18.172	18.113	4
35	18.767	18.732	18.693	18.652	18.608	18.260	18.209	18.454	18.396	18.334	35
6	10,000	18.963	18.033	18.878	18.831	18.781	18.727	18.670	18.600	18.243	6
7	19'222	10,183	19,140	19'094	19.045		18.935	18.874	18.810	18.741	7
8	19.434	19.395	19.347	19'299	19.247	10,101	19,135	19.068	19.001	18.928	8
9	19.636	19.592		19.494		19.381		19.252	19.181	19.105	9
40	19.829		19.733	19.679	19.622			19.425	19.351	19.271	40
1	20.013	19.963		19.855	19.795		19.665	19.289	19.211	19.428	1
2	50,186	50,132	20.080	20.055	19.959	19.891	19.820	19.743	19.662	19.575	2
3	20'351	20.508	20'241	20'179	20.113	20.043	19.968	19.888	19.803	19.712	3
4	20.208	20.452	20.392	20.328	20.529	20.186	20.107	20.024	19.935	19.840	4
45	20.657	20.299	20.236	20.469	20.397	20.320	20.538	20'151	20.029	19.960	45
6	20.798	20.232	20.671	20,601	20.256	20,446	20,361	20.520	20'174	20.071	6
7	20.931	20.867	20.799	20.25	20.648	20.264	20.475	50.381	20.581	20.14	7
8	21.026	20.990	20.018	20.842	20.421	20.674	20.282	20.484	20.379	20.268	8
9	21.1.4	21,102	21,031	20.925	20.867	20.777	20.681	20.246	20.471	20.352	9
	IO	II	12	13	14	15	16	17	18	19	
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VALUES OF TEMPORARY ANNUITIES OF 1

Dura-	20	21	22	23	24	25	26	27	28	29	Dura-
tion.	20.808	20.623	20.434	20.241	20.044	19.842	19.635	19.425	19.211	18:992	tion.
0	.000	.000	.000	.000	.000	.000	•000	.000	.000	'00 0	0
1	.962	.962	962	'962	962	'962	.961	.961	.961	.961	1
2	1.888	1.888	1.884	1.887	1.886	1.886	1.882	1.882	1.884	1.883	2
3	2.779	2.778	2.777	2.776	2.775	2.774	2.773	2.772	2.771	2.769	3
4	3.636	3.634	3.633	3.631	3.630	3.628	3.626	3.624	3.622	3.620	4
5	4.460	4.458	4.456	4'453	4.451	4.448	4.445	4.442	4'439	4.436	5
6	5.252	5.549	5.546	5.543	5.540	5.536	5.232	5.558	5.553	5.219	6
7	6.013	6.010	6.006	6.003	5.997	5.992	5.987	5.982	5.976	5.970	7
8	6.745	6.741	6.736	6.730	6.725	6.718	6.712	6.705	6.697	6.690	8 9
9	7.449	7.443	7.437	7.430	7.423	7.415	7.407	7:398	7.389	7:380	l
10	8.125	8.117	8.110	8.102	8.093	8.083	8.074	8.063	8.052	8.041	10
1	8.774	8.765	8.756	8.746	8.736	8.724	8.713	8.700	8.687	8.674	1
2	9:397	9:387	9.376	9.364	9.352	9'339	9.325	9.311	9.296		2
3 4	9.995	9.983	9.971	9.957	9'943	9.928	9.912	9.895	9.878	9.860	3 4
	10.269		10'541		10.210		10'474	10.455	10.435	10.412	l .
15	11'120	11'104	11.088	11.041	11.022	11,033	11.013	10,001	10.068	10.945	15
6	11.648	11.631	11.913		11.272	11,220	11.28		11'478		6
7	12'154	12'135	12'115	12.093	12.070		12'020		11.962	11.936	7
8	12.640	13.081	12.596		12.246		12.491	12'461	12.430	12.839	8 9
9	"	_	13.026		13.001		12'941	12.008	12.874	1	_
20	13.220	13.224	13'497		13.437		13'371	13.332	13.598	13.259	20
1 1	13.976	13'948	13.018		13.853	13.818	13.781	13.742	13.701		1
2	14.384	14.354	14.321		14.250		14'172	14'130	14.086		2
3	14.775	14.741	14.700	14.669	14.630		14'545		14'452		3 4
4	• •	15.115	15.074	15.034	14.992	14'947	14'900	, ,	14.799	14.745	I -
25	15.204	15.466	15.425	15.385	15.336	15.589	15.538	15.182	15.130	15.071	25
6	15.845	15.803	15.760	1	15.665		15.260	15.203	15.443	15.381	6
7	16.1480	16.122	16.383	16.030	15.978		15.865	15.804	15.740		8
8 9	16.775	16.725	16.672	16.330	16.272 16.222	16.492	16.152	16.360	16.021	16.311	9
			-				1	_			1
30	17.056	17.003	16.947	16.888	16.825	16.759	16.689	16.615	16.538		i .
	17:324	17.268	17.209	17.145	17.079		16.935	16.856	16.474 16.996	16.687 16.904	1 2
3	17.579	17.519	17.456	17.389	17.319		17'166	,	17.204	1	1 -
4	18.020	17.984	17.914	17.839	17.760		17.590	17.297	17.400	17.297	4
1	18.568	1	1 , , ,					1	1	1	1 -
35	18.473	18.197	18.124	18.045	17.962 18.125	17.874 18.059	17.782	17.684	17.582	17.473	35
8 7	18.668	18.290	18.322	18.421	18.330	18.533	18'131	18.022	17.751		
8	18.852	18.770	18.684	18.593	18'496	18.394	18.287	18.174	18.055	17.929	
ğ	19.034	18.939	18.849	18.753	18.652	18.242	18.433	18.314	18.180	1 1 2 1	
	19.184	1				18.685		1	18.313		40
40	19.339	19.097	19.003		18.931		18.692		18.426		1
2	19.482		19.581			18.934		18.671			
3	19.616	19.213	19.406	1	19.171	19.044	18.011		18.622		3
4	19.740		19.221		19.277		19.006		18.706		
45	19.855	4	19.627	19.504	19'373			18.940	18.782	1	45
6	19.962		19 027			19.319			18.849		
7	20.060		19.815	, , , , ,	19.541	19'394			18.908		7
8	20.121	20.022			19.613	19.461	19,301	19.134	18.960		
9	20.534		19.970	1 * 1 *	19.677	19.520	19.356	19.184	19.005	18.819	
	20	21	22	23	24	25	26	27	28	29	
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VALUES OF TEMPORARY ANNUITIES OF 1

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Dura.	30	31	32	33	34	35	36	37		39	Dura-
tion.	18.769	18.542	18:311	18.075	17:835	17.591	17:842	17:088	16.830	16.566	tion.
0	.000	,000	.000	.000	.000	.000	.000	,000	.000	.000	0
1	.960	.960	.960	.960	'959	'959	'959	·958	'958	·958	1
2	1.883	1.885	1.881	1.880	1.879	1.879	1.878	1.877	1.876	1.875	2
3	2.768	2.766	2.765	2.763	2.762	2.760	2.758	2.756	2.754	2.752	3
4	3.617	3.612	3.612	3.610	3.607	3.604	3.601	3.298	3 '595	3.291	4
5	4'432	4'429	4'425	4'421	4'417	4'413	4.408	4'404	4'399	4'394	5
6	5.514	5.500	5'204	5.198	5.193	5.182	5'181	5'174	5'167	2.160	6
7	5'963	5.957	5.950	5'943	5'935	5.928	5'920	5'911	5 002	5.892	7
8	6.682	6.673	6.664	6.655	6.646	6.636	6.626	6.612	6.604	6.201	8
9	7:370	7:360	7:348	7'337	7.326	7.314	7:301	7.287	7.273	7.258	9
10	8.020	8.016	8.003	7'990	7.976	7.961	7'945	7.929	7'912	7.893	10
1	8.660	8.645	8.629	8.613	8.597	8.579	8.261	8.241	8.521	8.499	1
2	9.263	9.246	9.228	9.209	9.190	9.169	9.148	9.122	0,100	9.074	2
3	9.841	9.821	9.800	9·778	9.756	9.732	9.707	9.680	9.652	9.622	3
4	10.393	10.370	10.346	10.322	10.596	10.560	10'240	10.500	10.177	10'142	4
1, 2	10.030	10.895	10.868	10.840	10811	10.480	10.747		10.675		
15 6	11'424	11.396	11.362	11'334	11,301	11.566	11.550	10.415	11.148	10.636	15
7	11.902	11.873	11.839	11.804	11.767	11.728	11.687	11.190	11.296	11.103	6 7
8	12.364	12.358	12,531	12'252	15,511	12.162	12'121	12.072	12.030	11.246	8
9	12.801	12.762	12.721	12.677		12.284	12.233	12'479	12'421	11.964	9
					_	_				12.359	
20	13.517	13.172	13'129	13.082	13.035	12.979	12.923	12.863	12.799	12.731	20
1	13.614	13.267	13.217	13'465	13'411	13.323	13.501	13.225	13.122	13.080	1
2	13.991	13.940	13.885	13.829	13.769	13.706		13.266		13'408	2
3 4	14.348	14.628	14.534	14'173	14'108	14.039	13.966	13.887	13.804	13.712	3
	14.688	•	14.262	14.498	14.428	14.323	14.573	14'189	14.099	14.003	4
25	12,010	14'945	14.877	14.802	14.729	14.648	14.262	14.471	14.373	14.569	25
В	15.314	15.542	15.171	15.004	15.015	14'925	14.835	14.734	14.629	14.214	6
7	15.602	15.28	15'449	15.362	15.548	15'184	15.082	14.979	14.867	14'747	7
8	15.874	15.794	15.409	15.620	15.25	15.426	15'320	15.502	15.084	14.959	8
9	16.130	16.044	15'954	15.859	15.759	15.652	15.238	15.418	15.590	12.123	9
30	16.340	16.279	16.183	16.085	15.975	15.861	15'741	15.613	15.476	15.331	30
1	16.296	16.499	16.397	16.500	16.146	16.022	15.927	15'791	15.647	15.493	1
2	16.804	16.402	16.296	16.482	16.365	16.534	16.098	15.954	15.803	15.640	2
3	17.004	16.896	16.782	19,991	16.233	16.398	16.525	16.103	15'943	15'773	3
4	17'188	17.074	16.923	16.822	16.691	16.249	16.398	16.538	16.040	15.891	4
35	17:359	17.238	17'111	16.977	16.835	16.682	16.22	16.360	16.183	15.992	35
в	17.217	17:390	17.256	17.115	16.962	16.809		16.469	16.284	16.090	6
7	17.663	17.230	17.389	17.241	17.086	16.921	16.748	16.266	16.374	16.172	7
8	17.796	17.657	17.210	17.355	17.193	17.021	16.841	16.621	16.452	16.543	8
9	17.919	17.773	17.619	17.458	17.289	17.111	16.923	16.726		16.304	9
40	18.030	17.879	17.718	17.550		17'189	16.992			16.326	40
1	18.135	17.973	17.807	17.632	17.450					16.400	1
2	18.553	18.058	17.886	17.705			17.115	16.896		16.437	2
8	18.304	18.134	17.955	17.769		17:370					3
4	18.377	18.301	18.016	17.824						16.491	4
45	18.441	18.259	18.069	17.871	17.666	17.451	17.228	16.997	16.758	16.211	45
6	18.497	18.310	18:115	17'912	17.201	17.482	17.255	17'020		16.526	6
7	18.246			17.946		17.508				16.537	7
8	18.288	18.392	18.184	17.975	17.755	17.528	17.203	17.021	16.802	16.246	8
ğ	18.624	18.423	18.514	17.998	17.775	17.544	17.307	17.062	16.811	16.223	9
	<u>`</u>		<u>.</u>								
	30	31	32	33	34	35	36	37	38	39	
		'	<u> </u>	'		2.	`			·	

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VALUES OF TEMPORARY ANNUITIES OF 1

 $3^{1}_{\bar{2}}$ per cent.

Dura-	40	4 I	42	43	44	45	46	47	48	49	Dura-
tion.	16.298	16.024	15.745	15.461	15·172	14.877	14.577	14.272	18.963	13.649	tion.
0	.000	.000	,000	.000	.000	.000	.000	.000	.000	,000	0
1 2	'957 1'873	°957	°957 1°871	1.870	1.868 1.868	°955 1°867	°954 1°865	'954 1'863	'953	°952	1 2
3	2.750	2.747	2.745	2.42	2.739	2.736	2.733	2.729	2.725	2.721	3
4	3.282	3.584	3.579	3.575	3.240	3.262	3.559	3.223	3.246	3.239	4
5	4.388	4.385	4.376	4.369	4.362	4'354	4.346	4'337	4'327	4.316	5
6 7	5°153 5'882	5.872	5°136	5°126 5°848	5°116 5'834	5°105	5°804	5.081	5°067 5°768	5.052	6 7
l ś	6.578	6.262	6.220	6.234	6.214	6.498	6.478	6.456	6.432	6.407	8
9	7.242	7.225	7.206	7.186	7.165	7.142	7.117	7.089	7.060	7.028	9
10	7.874	7.853	7.830	7.806	7.780	7.752	7.721	7.688	7.652	7.613	10
1	8.475	8.450	8·423 8·986	8.394	8·363 8·914	8·329 8·875	8.831 8.535	8·253 8·784	8.210 8.734	8·163 8·679	1 2
3	9.242	9.226	9.219	8.951 9.479	9.436		9.339	9.285	9.226	9.163	3
4	10,102	10.066		9.977	9.928	9.874	9.817	9.754	9.686	9.614	4
15	10.294	10.248	10.200	10'447	10.391	10,330	10.562	10.103	10'117	10.034	15
6	11.026	11.002	10.020	10.801	10.827	10.758		10.604	10.214	10'425	6
8	11.492	11.435	11'373	11.302	11.618	11.233	11.076	11,341	11.534	11.110	7 8
lő	12,502	12.535	12'146	12.064	11.975	11.881	11.440	11.669	, .	11.425	9
20	12.658	12.280	12.496	12.405	12.308	12'204	12'093	11'972	11'843	11.706	20
1	13.000	12.914	12.822	12.724	12.617	12.204		12.521	12'110	11,061	1
2	13.321	13.552	13.124	13.019	12'904	12.780	12.648	12.202	12.354	12,105	2
3 4	13.830	13.219	13.410	13.293	13'410	13.034	13.115	12.737	12.574	12'400	3 4
25	14,128	14.039	13,013	13.777	13.632	13.478	~	13.134	12,021	12'753	25
8	14.398	14.539	14'134	13.989	13.834	13.669	13'494	13.307	13,100	15,000	8
7	14.619	14.483	14.337	14.182	14'017	13.842	13.656	13.458	13.549	13.029	7
8	14.822	14.677	14.22	14.357	14.185	13'997	13.800	13.291	13'372	13.141	8
9	15.008	14.854	14.690	14.212	14'330	14'134	13'927	13.708	13.478	13.537	9
30	15.177	15.014	14.840	14.657	14'462	14 [.] 256	14.039	13.810	13.570	13.319	30
1 2	15.331	15.588	15.006	14.894	14.680	14.456	14.550	13.972	13.414	13.446	2
3	15.293	15.403	12,303	14.991	14.768	14.232	14'291	14.035	13.769	13'493	3
4	15.403	15.202	15.596	15.076	14.845	14.603	14.321	14.087	13.814	13.231	4
35	15.800	15.294	15:377	15.149	14'910	14'661	14'401	14'130	13.851	13.262	35
8	15.886	15.671	15'446	15.511	14'964	14 . 708		14'165	13.880	13.286	6 7
8	16.024	15.795	15.200	15.304	15'048	14.779	14.203		1	13.618	8
9	16.078	15.843	15.298	15.343	15.078	14.805	14.22	14.531	13.933	13.628	9
40	16.134	15.883				14.824		14.544		13.635	40
1			15.660			14.840	14.220	14.253	13'949	13.640	1
2 3		15.942 15.963		15'413	15.132	14 [.] 851		14.560		13.644	2
4			15.415		15'154	14.865			13.960	13.647	4
45	16.525			15'445		14.869				13.648	45
6	16.562	16.005	15.729		15'164	14.872	14.24	14.271	13'962		в
7	16.277	16.000		15.454			14.576			13.649	7
8	16.588	16.018		15.456 15.458		14.875		14'272		13.649	8
	40	41	42	43	44	45	46	47	48	49	

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VALUES OF TEMPORARY ANNUITIES OF 1

 $3^{1\over 2}$ per cent.

13*330 13*08 12*681 12*351 12*017 11*681 11*343 11*011 10*689 10*316 0	Dura-	50	51	52	53	54	55	56	57	58	59	Dura-
1	tion.	13.330	13.008	12:681	12.351	12.017	11.681	11.343	11.001	10.659	10.316	tion.
1	0	.000	.000	.000	.000			.000	.000	.000	.000	0
3 2716 2711 2705 2699 2692 2685 2677 2668 2659 2648 3 4 3531 37523 37513 37523 37492 37480 37467 37457 37427 37426 47262 47245 47227 47208 47286 47263 47286 4727 47208 47208 4	1	·952	.921	.950					'944		.940	1
4 3'531 3'523 3'513 3'503 3'492 3'486 3'467 3'452 3'437 3'420 5 4'394 4'291 4'277 4'262 4'245 4'227 4'208 4'186 4'163 4'138 6 5'035 5'017 4'998 4'977 4'954 4'929 4'902 4'872 4'840 4'805 7 5'747 5'703 5'677 5'649 5'618 5'585 5'549 5'510 5'468 5'422 8 6'393 6'355 6'914 6'870 6'822 6'770 6'713 6'652 6'586 6'515 9 7'571 7'524 7'475 7'441 7'363 7'300 7'232 7'158 7'079 6'994 10 7'571 7'524 7'475 7'441 7'363 7'300 7'232 7'158 7'079 6'994 11 8'113 8'058 7'998 7'935 7'866 7'791 7'10 7'624 7'530 7'430 2 8'620 8'555 8'486 8'412 8'331 8'244 8'150 8'049 7'941 7'825 3 9'094 9'019 8'939 8'853 8'760 9'154 9'040 8'919 8'738 8'314 8'821 4 9'535 9'450 9'338 9'260 9'154 9'040 8'919 8'738 8'144 8'50 10 10 10 10 10 10 10	2	1.857	1.854	1.821				1.837			1.822	2
6 4'304 4'291 4'277 4'262 4'245 4'227 4'208 4'186 4'136 4'138 5 6 5'535 5'707 4'988 4'977 4'924 4'924 4'802 4'872 4'840 4'855 6'82 6'241 6'198 6'133 6'103 6'055 5'992 8 8 6'393 6'955 6'914 6'870 6'822 6'76 6'713 6'652 6'526 6'622 8'526 8'328 8'348 8'341<		2.416	2.411	2.402							2.648	8
6 5 5 5 5 7 4998 4997 4954 4922 4922 4872 4884 4855 6 7 5 5 7 5 7 5 7 5 5		3.231	3.23	3.213		3'492	3.480				3.420	4
7 57727 5703 5677 5649 5618 5585 5549 5510 5468 5422 7478 6379 6348 6315 6326 6324 6198 6153 6103 6055 6566 5599 8 6993 6955 6914 6870 6822 6770 6713 6652 6586 6515 9 10 7571 7524 77475 77421 77363 7300 7732 7718 77079 6994 11 8113 8058 7998 7935 7966 7791 7710 7724 7530 77430 1 8113 8058 8939 8853 8760 8666 8552 8447 8714 87182 8 4 97535 9450 9358 9260 9754 9040 8919 8788 8649 7941 7825 2 8 8 9094 9019 8938 9634 9705 9705 9705 8950 8785 8 610324 10216 10100 9977 9844 9701 97550 9388 9217 9036 8 10324 10216 10100 9977 9844 9701 97550 9388 9217 9036 8 10290 10746 10523 10550 10245 10225 10245 10225 10245 10225 10245 10225 10245 10225 10245 10225 10245 10225 10245 10225 10245 10225 10245 10225 10245 10225 10245 10225 10245 10225		4.304	4'291				4.552		• -			5
8 6 6399 6'955 6'914 6'870 6'821 6'198 6'153 6'163 6'050 5'992 8 9 6'093 6'955 6'914 6'870 6'822 6'770 6'713 6'052 6'586 6'515 9 10 7'571 7'524 7'475 7'421 7'363 7'300 7'332 7'158 7'079 6'994 10 1 8'113 8'058 7'098 7'935 7'866 7'791 7'710 7'624 7'530 7'430 1 2 8'620 8'555 8'486 8'412 8'331 8'244 8'150 8'049 7'941 7'825 2 3 9'094 9'019 8'939 8'853 8'760 8'660 8'552 8'437 8'314 8'182 3 4 9'535 9'450 9'358 9'360 9'154 9'040 8'919 8'748 8'1649 10'20 11'45 10'20		5.035	5.012			1					4.802	6
9 6993 6995 6914 6876 6822 6776 6713 6652 6786 6515 9 10 7751 77524 77475 77421 77363 77300 7732 7718 77679 6794 6794 1 8713 8058 77998 7795 7866 7791 7710 77624 77537 77430 2 8620 87555 81486 8412 87331 8744 8750 8049 7941 7825 23 3 9094 9019 8939 8785 8760 8566 8752 8437 8714 87182 16 9945 9848 9745 9634 97515 97387 97251 9705 8950 8785 16 10/324 10/216 10/100 9977 9844 9701 97550 97388 8649 8761 17 10/74 10/554 10/425 10/425 10/410 19/43 9784 97611 9784 97611 18 11/200 10/403 10/425 10/550 10/401 10/238 10/56 97864 9661 9/447 89 11/200 10/403 11/232 11/054 10/650 10/464 10/238 10/56 9/864 9/661 9/447 89 11/201 11/303 11/448 11/257 11/653 10/433 10/452 10/239 9/968 9/968 11/202 11/836 11/644 11/436 11/219 10/990 10/751 10/500 10/239 9/968 11/203 11/831 11/951 11/730 11/487 11/232 10/968 10/603 10/326 10/326 12/309 12/318 11/961 11/730 11/487 11/232 10/968 10/603 10/326 10/326 12/309 12/364 12/329 11/488 11/593 11/327 11/51 10/765 10/470 10/470 12/304 12/307 12/353 12/398 12/333 11/307 11/327 11/317 10/905 10/507 10/333 10/309 10/308 13/307 12/373 12/506 12/344 12/331 11/906 11/335 10/933 10/654 10/316 13/317 12/307 12/661 12/347 12/351 12/907 11/681 11/342 11/001 10/659 10/316						1 5 1			2.210	5.468		7
10												
1 8 11 3 13 8 658 7908 7935 7866 7791 7710 7624 7730 7782 2 2 3 3 9094 9019 8939 8853 8760 8660 8552 8437 8314 8182 8 3 1 1 1 1 1 1 1 1 1			I		0.840					_		
2 8-620 8-525 8-486 8-421 8-331 8-244 8-150 8-049 7-941 7-8-25 2-8-25 3-9-25 9-105 8-939 8-938 8-950 8-950 9-9535 9-250 9-9535 9-250 9-9535 9-251 9-105 8-950 8-788 8-64 8-501 4-8-25 1-9-25 1-												
8 9094 9019 8939 8853 8760 8660 8552 8437 8788 8761 4 9753 97450 9738 9760 9757 9784 9791 9795 9788 8768 8768 8765 8 6 10324 10216 10100 9797 9784 9791 9755 9738 9721 9036 6 7 10674 10254 10245 10245 10245 10245 10245 10245 10245 10245 10245 10245 10245 10245 1025												
4 9'535 9'450 9'358 9'250 9'154 9'040 8'919 8'788 8'649 8'501 4							8.244					
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9 11'290 11'145 10'990 10'826 10'650 10'464 10'267 10'059 9'841 9'611 9'051 11'836 11'630 11'438 11'257 11'053 10'836 10'613 10'376 10'128 9'870 12 12'020 11'836 11'641 11'436 11'219 10'990 10'751 10'500 10'239 9'968 2 12'020 11'836 11'641 11'436 11'219 10'990 10'751 10'500 10'239 9'968 2 12'020 11'836 11'641 11'436 11'219 10'900 10'751 10'500 10'239 9'968 2 12'020 11'836 11'641 11'593 11'363 11'121 10'869 10'605 10'332 10'049 3 12'021 11'836 11'329 10'968 10'605 10'332 10'049 3 10'408 10'115 4 12'020 11'048 11'593 11'363 11'121 10'869 10'605 10'332 10'049 3 10'408 10'115 4 12'020 11'048 11'593 11'327 11'051 10'765 10'470 10'167 6 12'070 12'446 12'202 11'048 11'682 11'405 11'119 10'823 10'519 10'207 6 12'279 12'445 12'03 11'877 11'521 11'217 10'863 10'557 10'239 7 7 12'898 12'338 12'103 11'877 11'521 11'217 10'863 10'557 10'239 7 7 12'383 12'540 12'207 11'905 11'595 11'595 11'298 10'625 10'292 8 11'31'17 12'835 12'544 12'245 11'936 11'620 11'298 10'964 10'625 10'292 8 11'31'17 12'835 12'579 12'274 11'959 11'638 11'312 10'988 10'645 10'306 2 13'30'3 13'207 12'656 12'334 12'006 11'673 11'336 10'993 10'655 10'310 8 13'308 12'934 12'664 12'325 11'999 11'669 11'335 10'993 10'655 10'315 8 13'308 12'934 12'664 12'340 12'015 11'673 11'340 11'000 10'659 10'315 8 13'338 12'938 12'670 12'349 12'015 11'680 11'342 11'001 10'659 10'315 8 13'338 13'007 12'680 12'351 12'017 11'681 11'342 11'001 10'659 10'316 40 13'321 13'001 12'680 12'351 12'017 11'681 11'342 11'001 10'659 10'316 40 13'330 13'007 12'680 12'351 12'017 11'681 11'342 11'001 10'659 10'316 40 13'330 13'007 12'680 12'351 12'017 11'681 11'342 11'001 10'659 10'316 40 13'330 13'007 12'680 12'351 12'017 11'681 11'342 11'001 10'659 10'316 40 13'330 13'007 12'680 12'351 12'017 11'681 11'342 11'001 10'659 10'316 40 13'330 13'007 12'680 12'351 12'017 11'681 11'342 11'001 10'659 10'316 40 13'330 13'007 12'681 12'351 12'017 11'681 11'342 11'001 10'659 10'316 40 13'330 13'007 12'681 12'351 12'017 11'681 11'342 11'001 10'659 10'316 40 13'330 13'007 12'681 12'351 12'017 11'681 1	_										9.256	i I
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6 12·679 12·446 12·202 11·948 11·682 11·105 11·119 10·823 10·319 10·207 8 7 12·797 12·553 12·298 12·033 11·756 11·469 11·119 10·869 10·557 10·239 7 8 12·898 12·643 12·378 12·103 11·817 11·551 11·174 10·869 10·557 10·239 8 9 12·984 12·719 12·445 12·101 11·866 11·563 11·257 10·935 10·262 8 30 13·557 12·783 12·544 12·245 11·905 11·595 11·278 10·954 10·625 10·239 9 1 13·17 12·835 12·544 12·245 11·936 11·595 11·298 10·969 10·623 10·300 1 2 13·16 12·91 12·607 12·296 11·977 11·652 11·332 10·998 10·654 10·312 3 35 13·264 12·957 12·644 12·325 11·995	_	12.390	15.191	-			_				I	1
7 12'797 12'553 12'298 12'033 11'756 11'469 11'174 10'869 10'557 10'239 78 12'898 12'643 12'378 12'103 11'817 11'521 11'217 10'905 10'587 10'262 89 12'984 12'719 12'445 12'161 11'866 11'563 11'252 10'933 10'609 10'279 99 13'317 12'835 12'544 12'245 11'936 11'620 11'298 10'965 10'665 10'292 30 13'177 12'835 12'544 12'245 11'936 11'620 11'298 10'965 10'645 10'306 12'307 12'877 12'877 12'579 12'274 11'959 11'638 11'312 10'980 10'645 10'306 13'320 12'937 12'628 12'313 11'990 11'662 11'330 10'993 10'654 10'310 10'310 13'328 12'973 12'656 12'334 12'006 11'677 11'340 11'000 10'658 10'315 13'328 12'997 12'674 12'347 12'015 11'680 11'342 11'001 10'659 10'316 13'328 13'007 12'677 12'349 12'017 11'681 11'342 11'001 10'659 10'316 10'316 13'328 13'007 12'680 12'351 12'017 11'681 11'342 11'001 10'659 10'316 10'316 13'330 13'007 12'680 12'351 12'017 11'681 11'342 11'001 10'659 10'316 10'316 13'330 13'007 12'680 12'351 12'017 11'681 11'342 11'001 10'659 10'316 10'316 13'330 13'007 12'680 12'351 12'017 11'681 11'342 11'001 10'659 10'316 10'316 13'330 13'007 12'680 12'351 12'017 11'681 11'342 11'001 10'659 10'316 13'330 13'007 12'680 12'351 12'017 11'681 11'342 11'001 10'659 10'316 13'300 13'007 12'680 12'351 12'017 11'681 11'342 11'001 10'659 10'316 13'300 13'007 12'681 12'351 12'017 11'681 11'342 11'001 10'659 10'316 13'300 13'300 13'007 12'681 12'351 12'017 11'681 11'342 11'001 10'659 10'316 13'300 13'300 13'007 12'681 12'351 12'017 11'681 11'342 11'001 10'659 10'316 13'300 13'300 13'007 12'681 12'351 12'017 11'681 11'342 11'001 10'659 10'316 13'300 13'007 12'681 12'351 12'017				-			11.322	11.021				
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9 12'984 12'719 12'445 12'161 11'866 11'563 11'252 10'933 10'609 10'279 9 30 13'057 12'783 12'500 12'207 11'905 11'595 11'278 10'954 10'625 10'292 30 13'17 12'835 12'544 12'245 11'936 11'620 11'298 10'969 10'637 10'300 12'307 12'911 12'607 12'296 11'977 11'652 11'322 10'988 10'650 10'306 2 13'239 12'937 12'628 12'313 11'990 11'662 11'330 10'993 10'654 10'310 3 13'208 12'973 12'656 12'334 12'006 11'673 11'340 11'000 10'658 10'315 6 13'328 12'992 12'670 12'344 12'015 11'680 11'341 11'001 10'659 10'316 10'316 2 13'327 13'005 12'677 12'349 12'015 11'680 11'342 11'001 10'659 10'316 10'316 2 13'329 13'007 12'680 12'351 12'017 11'681 11'342 11'001 10'659 10'316 10'316 10'316 10'316 10'315 10'316 10'315 10'316 10'315 10'316 10		1 2 2							_		1 3-	
SO		1 5	_	_						1 4 1	1	
1 13'117 12'835 12'544 12'245 11'936 11'620 11'298 10'969 10'637 10'300 1 2 13'167 12'877 12'579 12'274 11'959 11'638 11'312 10'980 10'645 10'306 2 3 13'207 12'911 12'607 12'296 11'977 11'652 11'322 10'988 10'650 10'310 3 4 13'239 12'937 12'644 12'325 11'990 11'662 11'330 10'993 10'654 10'312 4 35 13'264 12'957 12'644 12'325 11'999 11'669 11'335 10'993 10'654 10'312 4 6 13'283 12'973 12'656 12'334 12'010 11'673 11'338 10'999 10'658 10'315 8 13'308 12'992 12'674 12'344 12'015 11'678 11'341 11'001 10'658 10'315 8 13'301 12'997 12'677 12'344 12'015 11'680 <th>1</th> <th></th> <th>1</th> <th></th> <th>12'161</th> <th>l</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th>	1		1		12'161	l						
2 13'167 12'877 12'579 12'274 11'959 11'68 11'312 10'980 10'645 10'306 2 3 13'207 12'911 12'607 12'296 11'977 11'652 11'322 10'980 10'645 10'306 3 4 13'239 12'937 12'628 12'313 11'990 11'662 11'330 10'993 10'654 10'312 4 35 13'264 12'957 12'644 12'325 11'999 11'669 11'335 10'993 10'656 10'312 4 6 13'283 12'973 12'656 12'334 12'006 11'673 11'338 10'999 10'658 10'315 8 7 13'328 12'992 12'670 12'344 12'013 11'678 11'341 11'001 10'659 10'315 8 13'332 13'004 12'678 12'351 12'017 11'681 11'342 11'001 10'659 10'316 10'316 4 13'330 13'007 12'680 12'351 12'017					•							
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35								-			_	
6 13'283 12'973 12'656 12'334 12'006 11'673 11'338 10'999 10'658 10'315 6 7 13'298 12'984 12'664 12'340 12'010 11'677 11'340 11'000 10'658 10'315 7 8 13'308 12'992 12'670 12'344 12'013 11'678 11'341 11'001 10'659 10'315 8 9 13'321 13'001 12'674 12'349 12'015 11'680 11'342 11'001 10'659 10'316 9 1 13'325 13'004 12'678 12'351 12'017 11'681 11'342 11'001 10'659 10'316 40 1 13'329 13'007 12'680 12'351 12'017 11'681 11'342 11'001 10'659 10'316 40 4 13'330 13'007 12'680 12'351 12'017 11'681 11'342 11'001 10'659 10'316 8 13'330 13'007 12'680 12'351 12'017	_	1 - 2										
7 13.298 12.984 12.664 12.340 12.010 11.677 11.340 11.000 10.658 10.315 7 8 13.308 12.992 12.670 12.344 12.013 11.678 11.341 11.001 10.658 10.315 8 9 13.316 12.997 12.674 12.347 12.015 11.680 11.341 11.001 10.659 10.315 8 40 13.321 13.001 12.677 12.349 12.016 11.680 11.342 11.001 10.659 10.316 40 1 13.325 13.004 12.680 12.351 12.017 11.681 11.342 11.001 10.659 10.316 40 1 13.320 13.007 12.680 12.351 12.017 11.681 11.342 11.001 10.659 10.316 2 45 13.330 13.007 12.680 12.351 12.017 11.681 11.342 11.001 10.659 10.316 3 8 13.330 13.007 12.681 12.351												
8 13'308 12'992 12'670 12'344 12'013 11'678 11'341 11'001 10'659 10'315 8 9 13'316 12'997 12'674 12'347 12'015 11'680 11'342 11'001 10'659 10'316 9 40 13'321 13'001 12'677 12'349 12'016 11'680 11'342 11'001 10'659 10'316 40 1 13'325 13'004 12'678 12'351 12'017 11'681 11'342 11'001 10'659 10'316 40 3 13'328 13'005 12'680 12'351 12'017 11'681 11'342 11'001 10'659 10'316 2 45 13'330 13'007 12'680 12'351 12'017 11'681 11'342 11'001 10'659 10'316 3 45 13'330 13'007 12'681 12'351 12'017 11'681 11'342 11'001 10'659 10'316 3 8 13'330 13'007 12'681 12'351		I - 5					11.673					
9 13'316 12'997 12'674 12'347 12'015 11'680 11'342 11'001 10'659 10'316 40 13'321 13'001 12'678 12'350 12'017 11'681 11'342 11'001 10'659 10'316 40 13'329 13'005 12'680 12'351 12'017 11'681 11'342 11'001 10'659 10'316 41'3'329 13'007 12'680 12'351 12'017 11'681 11'342 11'001 10'659 10'316 40 13'330 13'007 12'680 12'351 12'017 11'681 11'342 11'001 10'659 10'316 40 13'330 13'007 12'680 12'351 12'017 11'681 11'342 11'001 10'659 10'316 40 13'330 13'007 12'680 12'351 12'017 11'681 11'342 11'001 10'659 10'316 40 13'330 13'007 12'681 12'351 12'017 11'681 11'342 11'001 10'659 10'316 40 10'316		1			12.340							
40 13'321 13'001 12'677 12'349 12'016 11'680 11'342 11'001 10'659 10'316 10'3		/				_						_
1 13:325 13:004 12:678 12:350 12:017 11:681 11:342 11:001 10:659 10:316 1 2 13:327 13:005 12:680 12:351 12:017 11:681 11:342 11:001 10:659 10:316 2 3 13:329 13:007 12:680 12:351 12:017 11:681 11:342 11:001 10:659 10:316 2 45 13:330 13:007 12:680 12:351 12:017 11:681 11:342 11:001 10:659 10:316 3 6 13:330 13:007 12:680 12:351 12:017 11:681 11:342 11:001 10:659 10:316 3 8 13:330 13:007 12:681 12:351 12:017 11:681 11:342 11:001 10:659 50 50 51 13:330 13:007 12:681 12:351 12:017 11:681 11:342 11:001 10:659 50 9 13:330 13:007 12:681 12:351 12:017 <td< th=""><th></th><th> </th><th>1</th><th>1</th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th></td<>			1	1								
2 13'327 13'005 12'679 12'351 12'017 11'681 11'342 11'001 10'659 10'316 3 3 13'329 13'007 12'680 12'351 12'017 11'681 11'342 11'001 10'659 10'316 3 45 13'330 13'007 12'680 12'351 12'017 11'681 11'342 11'001 10'659 10'316 3 6 13'330 13'007 12'681 12'351 12'017 11'681 11'342 11'001 10'659 58 50 8 13'330 13'007 12'681 12'351 12'017 11'681 11'342 11'001 10'659 58 50 9 13'330 13'007 12'681 12'351 12'017 11'681 11'342 11'001 10'659 58 51 13'330 13'007 12'681 12'351 12'017 11'681 11'342 11'001 10'559 50 50 13'330 13'007 12'681 12'351 12'017 11'681					12'349	12'010	11.080	11.342	11,001	10.029	10.310	
3 13.328 13.006 12.680 12.351 12.017 11.681 11.342 11.001 10.659 10.316 3 4 13.329 13.007 12.680 12.351 12.017 11.681 11.342 11.001 10.659 10.316 3 45 13.330 13.007 12.680 12.351 12.017 11.681 11.342 11.001 10.659 10.365 50 7 13.330 13.007 12.681 12.351 12.017 11.681 11.342 11.001 10.659 50 50 50 13.330 13.007 12.681 12.351 12.017 11.681 11.343 11.001 10.659 50 50 13.330 13.007 12.681 12.351 12.017 11.681 11.681 11.343 11.001 10.659 50 50 13.330 13.007 12.681 12.351 12.017 11.681 11.681 11.343 11.001 10.559 50 50 13.300 12.681 12.351 12.017 11.681	_					12'017	11.081	11.342	11.001		10.310	_
4 13'329 13'007 12'680 12'351 12'017 11'681 11'342 11'001												
45 13°330 13°007 12°680 12°351 12°017 11°681 11°342 11°001 58 50 13°330 13°007 12°681 12°351 12°017 12°681 12°351 12°017 11°681 11°343 57 52 13°308 13°007 13°330 13°007 12°681 12°351 12°017 11°681 11°343 12°681 13°300 13°33					12.321							3
6 13'330 13'007 12'680 12'351 12'017 11'681 11'343 57 51 13'300 13'007 12'681 12'351 12'017 12'681 12'351 12'017 12'681 12'351 12'017 12'681 12'351 12'017 12'681 12'681 12'351 12'017 12'681 12'681 12'681 13'300 13'330 13'330 13'300 13'330 1											28	
7 13·330 13·007 12·681 12·351 12·017 11·681 12·681 12·351 12·017 11·681 12·681 12·681 12·351 12·681 12·351 12·681 12·681 12·681 13·300 13·330 13·300 13·330 13·300 13·330					12.321	12'017	11.081	11.342			50	
8 13'330 13'007 12'681 12'351 12'017				12.080	12 351	12'017	11.091	11.343	07	51		
9 13'330 13'007 12'681 12'351 12'681 12'681 13'330 50 13'330 50							11.091		52		13.330	
13 330 13 307 12 351 12 351 13 3008 13 330 1 12 681 13 3007 13 330 50						12 017				13.008	13.330	52
12.681 13.007 13.330 50	ا ا	13 330	13 007	12 001	12 351				12.681	13.008		
	I								12.681			50
# NAME NI NO NO NO NO NO NO NO						E 4	سر ہے		52			
32 33 34 33 3	<u></u>	74	- DT	5≥	33	54	<u> </u>	20	J E	2,	20	

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VALUES OF TEMPORARY ANNUITIES OF 1

31 PER 2 CENT.

Dura-	60	61	62	63	64	65	66	67	68	69	Dura-
tion.	9.972	9.627	9.284	8.941	8.600	8.261	7.925	7.591	7.262	6.937	tion.
0	.000	.000	•000	.000	.000	.000	.000	.000	.000	.000	0
1	.938	936	'9 34	.631	'929	•926	.922	.919	.912	.911	1
2	1.817	1.810	1.804	1.796	1.788	I'779	1.440	1.460	1.748	1.436	2
8	2.637	2.625	2.611	2.2597	2.281	2.264	2.242	2.252	2.204	2.480	3
4	3.401	3.381	3.359	3.335	3.310	3.282	3.252	3.510	3.184	3.146	4
5	4'111	4.081	4.049	4.014	3.976	3.936	3.892	3.844	3'794	3.739	5
6 7	4.767	4.726 5.320	4.682 5.262	4.635 5.500	4.283	4.28	4.469	4.402	4.336	4.563	6 7
8	5°373 5°930	5.862	5.790	5.413	5°134 5°629	5°062 5°540		4 [.] 903	4.816 5.236	4.723 2.122	s l
9	6.439	6.322	6.569	6.174	6.024	5.966	5°445 5°852	5.730	5.601	5.466	9
10	6.903	6.802	6.400	6.288	6.469	6.345	6.508	6.066	2.016	5.759	10
1	7.323	7.309	7.086	6.956	6.818	6.672	6.212	6.322	6.184	9.006	ĩ
2	7.702	7.570	7.430	7.585	7'124	6.958	6.784	6.601	6.410	6.511	2
8	8.041	7.892	7.734	7.567	7.391	7:205	7.011	6.809	6.298	6.380	3
4	8.343	8.177	8.000	7.815	7 620	7.416	7.203	6.981	6.752	6.212	4
15	8.610	8 426	8.232	8.038	7.815	7.593	7.362	7.123	6.877	6.625	15
6	8.844	8.643	8.431	8.510	7.980	7.740	7.493	7.238	6.977	6.410	6
7	9.048	8.829	8.601	8.363	8.117	7.861	7'599	7:330	7.055	6.776	7
8	9.553	8.988	8.744	8.491	8.229	7.959	7.683	7'401	7.112	6.825	8
9	9.372	9.122	8.863	8.296	8.330	8.038	7.749	7.456	7.160	6.861	9
20	9.498	9'234	8.961	8.680	8.393	8.099	7.800	7.497	7.193	6.887	20
1	9.602	9.322	9.041	8.748	8.449	8.146	7.838	7.528	7.216	6.902	1
2	9.688	9.400	9.104	8.801	8.493	8.181	7.866	7.549	7.233	6.917	2
3	9.758	9.459	9.123	8.842	8.226	8.207	7.886	7.264	7.244	6.925	8
4	9.813	9.202	9.191	8.872	8.220	8.552	7.900	7.575	7.251	6.930	4
25	9.857	9.540	9.519	8.894	8.267	8.238	7.909	7.281	7.256	6.933	25
8 7	9.890	9.267	9.240	8.910	8.579	8.247	7.916	7.586	7:258	6.935	6
8	9.915	9.286 9.286	9.255	8.022	8.587	8.253	7.919	7.588	7:260	6.936	7
9	9°933 9°946	9.610	9.266	8.929	8.292	8.256	7.922	7:590	7.261	6.036	8
30		9.617	9.273	8.934	8.596	8.258	7.923	7.590	7.261	6.936	
ĭ	9°956	9.621	9.277	8.937	8.598	8.300 8.300	7.924	7:591	7.262	6.032	30 1
2	9.966	9.624	9.282 9.580	8.939 8.939	8·599	8.501	7.924	7.591	7.262	6·937	2
3	9.968	9.625	9.283	8.941	8.600	8.561	7.924	7.291	7.262	6.937	3
4	9.970	9.626	9'284	8.941	8.600	8.561	7.925	7.591	7.262	69	Ĭ
35	9.971	9.627	9.284	8.941	8.600	8.561	7.925	7.591	68		
6	9.971	9.627	9.284	8.941	8.600	8.561	7.925	67		40	1
7	9.972	9.627	9.284	8.941	8.600	8.561	66		4I	16.298	1
8	9.972	9.627	9.284	8.941	8.600	65		42	16.024		-
9	9.972	9.627	9.284	8.941	64	4.	_ 43	15.745	16.034	16.508	62 1
40	9.972	9.627	9.284	68	4.7	44	15.461	15.745	16.054	16.592	60
1	9.972	9.627	62	46	45	15.172		-			
2	9.972	61	47	46	14.877		15'461			16.397	59 8
	60	48		14.577	14.877		15'461				7
	49		14.272	14.277			15.461			16.597	6
	 i	13.963	14'272	14.27	14.877		15.461		16'024	16.597	5
	13.649	13.963		14.27			15.461		l -	16.297	54
53	13.649	13.963	14.272	14.577			15.460			16.596	3
2	13.649	13.963	14.272	14.577		15.141	15.460	15.744		16.295	2
1	13.649	13.963		14.577	14.877	15.141	15.460	15.743	16.051	16.594	1
50	13.649	13.963	14'272	14.577	14.876	15.140	15.459	15.742	16.050	16.501	50
	49	48	47	46	45	44	43	42	4I	40	
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VALUES OF TEMPORARY ANNUITIES OF 1

31 PER DENT.

Dura-	<i>7</i> 0	71	72	73	74	7 5	76	_ 77	78	79	Dura-
tion.	6.616	6.301	5.991	5.688	5.391	5.102	4.819	4.545	4.278	4.020	tion.
0	,000	,000	.000	.000	.000	.000	.000	,000	.000	.000	0
1	906	•901	.896	.890	'884	.877	.869	.861	*852	.843	1
3	1.723	1.409	1.693	2.366 3.646	1.658	1.639	1.617	1,202	2.168	1.244	2
4	3°106	3.06 2	2°398	2.965	2,331	2.824	2.255 2.253	2.213	2.659	2.1589	3 4
5	3.681	3.619	3.22	3.481	3.402	3.352	3'240	3.121	3.022	2.958	5
6	4'185	4'102	4.014	3.920	3.822	3.717	3.607	3'493	3.373	3.548	8
7	4.624	4.219	4.408	4.591	4'168	4.039	3.902	3.765	3.621	3.471	7
8	2.001	4.874	4.740	4.299	4'453	4.300	4'142	3'979	3.811	3.639	8
9	5°323	5'173	5.016	4.823	4.683	4.208	4.322	4.143	3.953	3.465	9
10	5.594	5.422	5'243	5.028	4.866	4.670	4.469	4.265	4.028	3.820	10
1 2	5.820	5.626	5.427 5.573	5°221	5°010	4'795 4'888	4.276 4.624	4'355 4'420	4°133	3.011	1 2
8	6.122	5.45 5.954	5.687	5'447	5.503	4'957	4.711	4.465	4.551	3'953 3'980	3
4	6.274	6.024	5.775	5.20	5.564	5.006	4.750	4.496	4'244	3.997	4
15	6.368	6.106	5.841	5'574	5.307	5.041	4.776	4.216	4.259	4.007	15
в	6.439	6.162	5.890	5.613	5.338	5.064	4'794	4.28	4.268	4.013	6
7	6.493	6.500	5'924	5.640	5.328	5.079	4.805	4.236	4.273	4.014	7
8 9	6.233	6.240	5.948	5.658	5.372	5.0 89	4.811	4.240	4.276	4'018	8
1	6.281	6.262	5.965	5.670 5.678	5.380	5.098 5.098	4.815 4.817	4.543	4'277	4.019	9
20	6.294	6.277	5°975 5°982	5.682	5·385 5·388	2,100	4.818	4°544 4°544	4.278 4.278	4'020	20 1
2	6.603	6.293	5.986	5.685	2,390	2,101	4.819	4°545	4.278	4°020	2
3	6.609	6.296	5.989	5.686	2.391	2.101	4.819	4.242	4.278	4.030	3
4	6.612	6.298	5.990	5.687	2.391	2.101	4.819	4'545	4.278	79	
25	6.614	6.300	5.9 91	5.688	5.391	2,101	4.819	4.242	78		1
6	6.612	6.300	2,001	5.688	2,391	5.103	4.819	77	21	_30	
7 8	6.619 9.619	6.301	5.991	5.688	5.391	5.103	76	32	31	18.769	
9	6.616	6.301 6.301	2,001	5.688 5.688	5,391	75	33		18.542	18.769	72
30	6.616	6.301	2,991	78	74	34		18.311	18.542	18.769	ī
1	6.616	6.301	72		35	17:835	18.075	18.311	18.242	18.769	70
2	6.616	71		36	17:591		18.075	18.311	18.242	18.769	69
	70	-00	_37_	17:342		17.835	18.075	18.311		18.769	8
	20		17:088		17.591	17 ^{.8} 35	18.075	18.311	18.542	18.769 18.769	7
	39	16.830	17.088	17.342	17.291	17.835	18.075	18.310	18.542	18.768	6 5
	16.566	16.830	17.088	17'342	17.591	17.835	18.075	18.310	18.242	18.768	64
63	16.266	16.830	17.088	17'342	17.291	17.835	18.075	18.310	18.241	18.768	3
2	16.266	16.830	17.088	17'342	17.591	17.835	18.075	18.310	18.241	18.767	2
1	16.266	16.830	17.088	17:342	17.291	17.835	18.074	18.309	18.240	18.766	1
60	16.266	16.830	17.088	17.342	17.591		18.074	18.309	18.539	18.765	60
59 8	10.500	16.830 16.830		17.342	17.591	17.835	18.073	18.308	18.238		59
7	16.266	16.830	17.088	17'241	17.290	17.833	18.071		18.535	18 [.] 759	8 7
В		16.839					18.068			18.749	6
5	16.262	16.829	17.086	17.339	17.586	17.828	18.064			18.741	5
54		16.828		17:337	17.584	17.825	18.029		18.213	18.731	54
3		16.826	17.083	17.334	17.280					18.717	3
2	16.263	16.824		17:330		17.812	18.044	18.269		18.700	2
1 50	16.220	16.817		17:325		17.803				18.680	1
		<u>-</u>	17.070			17'791				18.655	50
	39	38	37	36	35	34	33	32	31	30	
					0						

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VALUES OF TEMPORARY ANNUITIES OF 1

Dura-	80	81	82	83	84	85	86	87	88	89	Dura-
tion.	3.771	8.530	3.298	3.075	2.861	2.657	2·462	2.276	2·100	1.932	tion.
0	.000	.000	.000	.000	.000	.000	.000	.000	,000	.000	0
1 1	.832	.821	.809	.796	783	.767	752	734	.716	.697	1
2	1.216	1.486	1'454	1.420	1.383	1.344	1.203	1.626	1.512	1'168	2 3
3 4	2.210 5.210	2.429	1.958 2.345	2.522	1.834 2.166	2.071	1'974	1.874	1.22	1.670	4
5	2.855	2.747	2.636	2.251	2.403	2.583	2,160	2.036	1.015	1.788	5
6	3.110	2.986	2.820	2.210	2.269	2.425	2.585	2.138	1,000	1.856	6
7	3.318	3.165	3.003	2.842	2.680	2.219	2.358	2.500	2.045	1.894	7
8	3.464	3.584	3,100	2,031	2.753	2.248	2.402	2.536	2.075	1.914	8
9	3.269	3.375	3.181	2.989	2.499	2.613	2.432	2.256	2.082	1.924	9
10	3.642	3'434	3.558	3.056	2.827	2.634	2.447	2.267	2.094	1,050	10
	3.691	3.472	3.228	3.048	2.843	2.645	2.455	2.272	2.097	1.031	1 2
3	3'723	3.497	3.276	3.061	2·852 2·857	2.652 2.654	2.459 2.461	2.274	2.099	1,035	3
4	3'743 3'756	3.212	3.586	3.068	2.860	2.656	2.462	2.276	2.000	89	
15	3.763	3.222	3.595	3.074	2.861	2.657	2.462	2.276	88		
6	3.767	3.22	3.297	3.072	2.861	2.657	2.462	87		20	
7	3.769	3.229	3'297	3.075	2.861	2.657	86		21	20.808	
8	3.770	3.23	3.298	3.075	2.861	85		22	20.623	20.808	82
9	3.770	3.259	3.298	3.075	84	24	23	20.434	20.623	20.808	1
20	3.771	3.230	3.298	83	25	24	20.241	20'434	20.623	20.808	80
1 1	3.771	3.230	82	26	25	20.044	20'241	20'434	20.623	20.808	79
2	3.771	81	27		19.842	20'044	20'241	20'434	20.623	20.808	8
1 1	80	28		19.635	19.842	20.043	20.241	20.434	20.623	20.808	7
1 1	29		19.425	19.635	19.842	20.043	20.541	20'434	20.623	20.808	6
1	18.992	19.211	19.425	19.635	19.842	20'043	20'241	20'434	20.623	20.808	5
I		19,511	19.425	19.635	19.842	20.043	20,341		20.623	20.807	74
78	18.992	19.511	19.425	19.635	19.841	20.043	20'241	20.434	20.623	20.807	3
2 1	18.992 18.992	19,511	19.425	19.635	19.841	20'043 20'043	20'241	20'434	20.623	20.807	2
70	18.992	19.510	19.425	19.635	19.841	20'043	20.541	20.434	20.622	20.805	70
69	18.992	10.510	19.425	19.635	19.841		20'240		20.620	20.804	69
8	18.992	19.510	19.425	19.635	19.841				20.619	20.802	8
7	18.992	19.510	19.424	19.635	19.840		20'238		20.617	20.799	7
6	18.992	19.510	19'424	19.634	19.839		20.532	20.428	20.614		6
5	18.991	19,510	19.423	19.633	19.838		20.534	20.422	20.609	20.789	5
64	18.991	19'209	19.423	19.632	19.836	20.036	20.531	20'420	20.604	20.782	64
3 2	18.080 18.000	19.508	1	1	19.834	20'033	20.220		20.296	20.773	3 2
	18.088	19.207		19.624	19.825	20'028	20,515	20'407	20.587	20 702	I -
60	18.986	10,505	19.413	19.619	19.819			20.382	20.261	20.431	60
59	18.983	1 -			19.810	•	ł		20.243	1	59
8	18.979	19'192	19.400		19.799				20.252	20.686	8
7	18.973	19.182	19.391	19.592	19.785	19'973	20'155	20.329	20.497		
6	18.962		19.379			19 954					
5	18.955	19.163			l .	19.930	20.102		20.433	20.284	5
54	18.942		19.346		19.723				20.393		54
3 2	18.926	19.128	19.324	19.482	19.659		19.993	20.140	20.348		3 2
li	18.882		19.562			19.785			20.540		lî
50	18.853	19.044			19.223						50
	29	28	27	26	25	24	23	22	21	20	

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VALUES OF TEMPORARY ANNUITIES OF 1

Dura-	90	91	92	93	94	95	96	97	98	99	Dura-
tion.	1.773	1.624	1.481	1.851	1:224	1.112	1.000	•910	·820	· 6 98	tion.
0	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	0
1	.676	.655	.630	.608	·58o	.556	524	.200	·483	451	1
2	1,118	1.062	1,013	.960	902	·847	785	.741	701	·6 ₃ 8	2
3	1.396	1.317	1.532	1.156	1.071	992	912	850	791	.698	3
4	1.266	1.463	1.328	1.258	1.122	1.063	.969	·895	.820	99	
5	1.664	1.243	1'423	_			-		98		
В	ا نہ ا			1.309	1,199	1.094	'992	.910		IO	
7	1.718	1.286	1.455	1'334	1'214	1.102	1,000	97	II		
	1'747	1.607	1'471	1.342	I.555	1,115	96	12		22.393	
8	1.761	1.617	1.478	1.320	1.524	95	13		22.256	22.393	92
	1.768	1.622	1.481	1.321	94	TA	-3	22.114	22.256	22.393	1
10	1.441	1.624	1,481	98	TC	14	21.967	22'114	22.526	22,393	90
1	1.42	1.624	92	16	15	21.816		- 1			
2	1.773	91		10	21.660		21.967	22'114	22.256	22.393	89
	90		17	21.499		21.816	21.967	22'114	22.256	22.393	8
		18	21.333		21.660	21.816	21.967	22'114	•	22.393	7
	19	91.109	21 000	21.499	21.660	21.816	21.967	22'114	22.526	22.393	6
	20.00=	21.163	21.333	21.499	21.660	21.819	21.967	22'114	22.526	22.393	5
	20.987	21.163	21.333	21.499	21.660	21.816	21.967	22'114	22.256	22.393	84
83	20.987	21.163	21.333	21.499	21.660	21.816	21.967	22'114	22.256	22.393	3
2	20.987	21.163	21.333	21'499	21.660	21.816		22'114	22.256	22.393	2
ī	20.987	21.163	21.333	21'499	21.660	21.816	21.967	22.113	22.255	22.393	1
80	20.987	21.163	21.333	21'499	21.660	21.816	21.967	22.113	22.255	22.392	80
79	20.987	21.163	21,333	21.498	1	21.815	21.966	22,113	22.224	22.391	79
8	20.987	21.163	21,333	21.498		21.812		-	22.253	22.389	8
7	20.087	21.163		21.498		21.814	21.965	22,111	22.223	22.387	7
			21.333			21.814			_		
6	20.987	21.163	21.332	21.498			21.964	22.100	22.220	22.382	6
5	20.987	21,195	21.332	21.497		21.812	21.962	22'107	22.247	22.381	5
74	20.987	21.165	21.335	21.496	21.656	21.811	21,060		22.543	22.376	74
3	20.987	21,191	21.331	21.496		21.808	21.957	22'100	22.538	22.370	3
2	20.986	21,191	21.329	21.493		21.805	21.923	22.092	22.531	22.362	2
1	20.982	21.129	21.327	21.491	21.648	21.801	21'947	22.088	22.553	22.323	1
70	20'984	21.124	21.322	21.487	21.644	21.795	21'940	22.080	22.513	22.341	70
69	20.082	21'154	21'321	21.483	21.638	21.788	21'932	22.070	22'201	22.327	69
.8	20.979	21'151	21.316		21.631	21.779	21.921	22.057	22'187	22.310	8
7	20.975	21'146	21.310	21'469	21.621	21.768	21.908	22.042	22'170	22'291	7
В	20'970	21,130	21,305	21.459	21.610	21.754	21.892	22'024		22.268	6
5	20.963	21,131	21,365	21'447	21.296	21.738	21.874	22'003	22.136	22.242	5
64		l .	1			21.410	21.852	21.979	22.000	22.513	64
	20.024	21'120	21'279	21.432	21.24		21.827			22.179	
3	20'943	21'107	21'264	21.415	21.226			21.010	22.068		3 2
2	20'930	21.002	21'246	21.394	21.232	21.670			22.033	22'141	_
60 60	20'914	21.073	21.554			21.640	21 /04	21.882	21'994	22.099	60
1		21.020				21.605				22.023	
59	20.871	21.024				21.266		21.796	21.003		59
8	20.843	20.993		21.521		21.255					8
7						21.473					7
6		20.018		51,185	21.304	21.419					6
5	20.733	20.872	21.004	21,150		21.329	21'464	21.263	21.655	21.742	5
54		20.821	20.949	21.070	21'185	21.593	21.392	21.490	21.280	21.663	54
3		20.764				21,551		21.411			3
2	20.223	20.701	20.821	20.935		21.143	21.537	21.326			2
1		20.631	20.747	20.857	20.060	21.028				21.390	ī
50	20.435	20.224	20.667	20.773	20.872			31,136		21.582	50
			`								—
	19	18	17	16	15	14	13	12	II	10	1
					0						

$\mathbf{0}^{\mathtt{M}}$

4 PER CENT.

CONSTANTS.

Constant.	Number.	Logarithm.
i	·04	<u>2</u> .602 060 0
(1+i)	1.04	0.014 033 3
$(1+i)^{\frac{1}{2}}$	1,010 803 0	0.008 216 2
$(\mathbf{r}+i)^{\frac{1}{2}}$	1.009 823 4	0.004 258 3
v	·961 538 5	ī·982 966 7
$v^{\frac{1}{2}}$	·98o 58o 7	ī·991 48 3 3
v^{1}	·990 242 7	ī·995 741 7
ď	·038 461 5	2.585 026 7
δ	·039 220 7	2·593 515 5

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COMMUTATION TABLE

4 PER CENT.

\boldsymbol{x}	\mathbf{D}_{x}	N_x	\mathbf{S}_{x}	\mathbf{C}_{x}	\mathbf{M}_{x}	R_x	x
10 11 12 13 14	67 556 64 739 62 036 59 444 56 958	1 449 087 1 381 531 1 316 792 1 254 756 1 195 312	26 726 153 25 277 066 23 895 535 22 578 743 21 323 987	219.56 212.36 206.00 199.81	11 822'54 11 602'98 11 390'62 11 184'62 10 984'81	421 160·55 409 338·01 397 735·03 386 344·41 375 159·79	10 11 12 13 14
15 16 17 18 19	54 574 52 286 50 090 47 983 45 961	1 138 354 1 083 780 1 031 494 981 404 933 421	20 128 675 18 990 321 17 906 541 16 875 047 15 893 643	189.00 184.30 180.67 176.57	10 791'02 10 602'02 10 417'72 10 237'05 10 060'48	364 174 98 353 383 96 342 781 94 332 364 22 322 127 17	15 16 17 18 19
20 21 22 23 24 25	44 020 42 156 40 366 38 646 36 994 35 406	887 460 843 440 801 284 760 918 722 272 685 278	14 960 222 14 072 762 13 229 322 12 428 038 11 667 120	171'15 168'78 167'16 165'80 164'68	9 887.05 9 715.90 9 547.12 9 379.96 9 049.48	312 066 69 302 179 64 292 463 74 282 916 62 273 536 66 264 322 50	20 21 22 23 24 25
26 27 28 29 30	33 881 32 415 31 005 29 650	649 872 615 991 583 576 552 571	10 944 540 10 259 570 9 609 698 8 993 707 8 410 131 7 857 560	163.00 163.07 162.25 162.18	8 885.73 8 722.73 8 559.66 8 397.41 8 235.23	255 273 °02 246 387 '29 237 664 '56 229 104 '90 220 707 '49	26 27 28 29
31 32 33 34 35	27 095 25 891 24 734 23 622 22 553	494 574 467 479 441 588 416 854	7 334 639 6 840 065 6 372 586 5 930 998	161.63 161.44 161.03 160.41	8 073.07 7 911.44 7 750.00 7 588.97 7 428.56	212 472'26 204 399'19 196 487'75 188 737'75	31 32 33 34 35
36 37 38 39 40	21 525 20 538 19 589 18 678	370 679 349 154 328 616 309 027 290 349	5 120 912 4 750 233 4 401 079 4 072 463 3 763 436	159'56 158'83 157'92 157'47 156'62	7 268:47 7 108:91 6 950:08 6 792:16 6 634:69	173 720°22 166 451°75 159 342°84 152 392°76 145 600°60	36 37 38 39 40
41 42 43 44 45	16 961 16 152 15 376 14 629	272 547 255 586 239 434 224 058	3 473 087 3 200 540 2 944 954 2 705 520 2 481 462	155'99 155'54 154'90 154'59	6 478.07 6 322.08 6 166.54 6 011.64 5 857.05	138 965.91 132 487.84 126 165.76 119 999.22 113 987.58	41 42 43 44 45
46 47 48 49 50	13 223 12 560 11 923 11 310	195 517 182 294 169 734 157 811	2 272 033 2 076 516 1 894 222 1 724 488 1 566 677	154'17 154'17 154'24 154'64	5 702.81 5 548.64 5 394.47 5 240.23 5 085.59	108 130·53 102 427·72 96 879·08 91 484·61 86 244·38	46 47 48 49 50
51 52 53 54	10 153 9 606·6 9 080·8 8 574·4	135 781 125 627 6 116 021 0 106 940 2	1 420 176 1 284 394'5 1 158 766'9 1 042 745'9	155'73 156'37 157'09 158'10	4 93°54 4 774'81 4 618'44 4 461'35	81 158·79 76 228·25 71 453·44 66 835·00	51 52 53 54

 $N_x = D_x + D_{x+1} + \dots$ $S_x = N_x + N_{x+1} + \dots$

OM

COMMUTATION TABLE

4 PER

x	\mathbf{D}_{x}	N_x	S_x	\mathbf{C}_{x}	$\mathbf{M}_{m{x}}$	R_x	x
55 56 57 58	8 086·5 7 616·5 7 163·6 6 727·0	98 365.8 90 279.3 82 662.8 75 499.2	935 805.7 837 439.9 747 160.6 664 497.8	159.03 159.03	4 3°3°25 4 144°22 3 984°25 3 823°24	62 373.65 58 070.40 53 926.18 49 941.93	55 56 57 58
59 60	6 306·3	68 772·2 62 465·9	588 998.6 520 226.4	163.80	3 498.12 3 661.50	46 118.69 42 457.49	59 60
61 62 63 64	5 509'9 5 133'5 4 771'0 4 422'2	56 565.2 51 055.3 45 921.8 41 150.8	457 760°5 401 195°3 350 140°0 304 218°2	164.53 165.04 165.28 165.25	3 334'37 3 169'84 3 004'80 2 839'52	38 959 32 35 624 95 32 455 11 29 450 31	61 62 63 64
65 66 67 68	3 764.8 3 455.9 3 160.2	36 728·6 32 641·7 28 876·9 25 421·0	263 067.4 226 338.8 193 697.1 164 820.2	164.01 164.02 165.81	2 674.27 2 509.36 2 345.31 2 182.50	26 610.79 23 936.52 21 427.16 19 081.85	65 66 67 68
69 70 71	2 877.6 2 608.3	22 260·8 19 383·2	139 399°2 117 138°4 97 755°2	158.69 152.06	2 021 47 1 862 78	16 899:35 14 877:88	69 70 71
72 73 74	2 352'3 2 109'8 1 880'9 1 665'8	16 774'9 14 422'6 12 312'8 10 431'9	97 755 2 80 980:3 66 557:7 54 244:9	147.69 142.73 136.92	1 707'11 1 555'05 1 407'36 1 264'63	13 015'10 11 307'99 9 752'94 8 345'58	72 73 74
75 76 77 78 79	1 464'9 1 278'0 1 105'5 947'26 803'41	8 766·1 7 301·2 6 023·2 4 917·69 3 970·43	43 813.0 35 046.9 27 745.7 21 722.52 16 804.83	130'49 123'42 115'67 107'43 98'744	1 127.71 997.22 873.80 758.13 650.695	7 080.95 5 953.24 4 956.02 4 082.22 3 324.091	75 76 77 78 79
80 81 82 83 84	673'76 558'16 456'18 367'40	3 167.02 2 493.26 1 935.10 1 478.92 1 111.52	12 834'40 9 667'38 7 174'12 5 239'02 3 760'10	89.689 80.503 71.236 62.081 53.239	551.951 462.262 381.759 310.523 248.442	2 673'396 2 121'445 1 659'183 1 277'424 966'901	80 81 82 83 84
85 86 87 88 89	226·76 173·18 129·53 94·658	820 ³ 3 593 ⁵ 7 420 ³ 9 290 ⁸ 55	2 648·58 1 828·25 1 234·68 814·289	44.848 36.990 29.894 23.562	195°203 150°355 113°365 83°471	718·459 523·256 372·901 259·536	85 86 87 88 89
90 91 92 93 94	67:455 46:777 31:451 20:486 12:845 7:766 5	196·197 128·742 81·965 50·514 30·028 17·182 9	523'434 327'237 198'495 116'530 66'016 35'988 2	18.084 13.527 9.755 3 6.852 7 4.584 8 2.987 1	59'909 41'825 28'298 4 18'543 1 11'690 4 7'105 6	176.065 116.156 74.330 6 46.032 2 27.489 1 15.798 7	90
95 96 97 98 99	4'480 7 2'478 5 1'291 8 '642 5 '308 9	9 [°] 416 4 4 [°] 935 7 2 [°] 457 2 1°165 4	18·8o5 3 9·388 9 4·453 2 1·996 0 •830 6		4'118 5 2'288 6 1'197 3 597 7	8.693 I 4.574 6 2.286 0 I.088 7	95 96
100 101 102	138 6 057 1 018 3	522 9 214 0 975 4 918 3	'307 7 '093 7 '018 3	.076 2 .036 6 .017 6	°130 4 °054 2 °017 6	*202 2 *07 1 8 *017 6	100 101

$$N_x = D_x + D_{x+1} + \dots$$

 $S_x = N_x + N_{x+1} + \dots$

OM LOGARITHMS AND CO-LOGARITHMS OF Dx, Nx, Cx, Mx 4 c

	-	- 37		. 36	1.5	1 NT	10	, M	
\boldsymbol{x}	$\log D_x$	$\log N_x$	$\log C_x$	$\log M_x$	$\operatorname{col} \mathbf{D}_{x}$	$\operatorname{col} \mathbf{N}_x$	$\operatorname{col} \mathbf{C}_x$	$\operatorname{col} \mathbf{M}_{x}$	\boldsymbol{x}
10	4.829 67	6.191 10	2.341 25	4.072 71	5.140 33	7.838 90	3.658 45	5.927 29	10
11	811 16	140 36	'327 08	'064 57	188 84	859 64	672 92	935 43	11
12	792 65	119 52	313 86	.056 55	207 35	·88o 48	'686 14	943 45	12
13	774 11	.098 56	300 61	'048 62	225 89	922 52	1.699 39	951 38	13 14
14	·755 5 ⁶	.077 48	'287 33	.040 79	'244 44		712 67	'959 21	1 1
15	.736 98	·056 28	276 47	.033 06	263 02	'943 72	723 53	966 94	15
16	718 38	'034 94	265 53	.025 39	'281 62	965 06	734 47	982 23	16 17
17	699 75	'013 47	256 88	'017 77	'300 25 '318 91	6.008 12	743 12	7989 83	18
18	.681 0 9	5.991 85	246 91	010 17	318 91	029 92	755 88	'997 38	19
19	.662 39	.970 08	239 12			1	1		1
20	643 65	'948 15	233 36	3.995.07	356 35	'051 85		4.004 93	20
21	624 86	926 05	'227 33	'987 48	375 14	.073 95	772 67	012 52	21 22
22	.606 01	'903 78	223 13	979 87	393 99	118 66	780 41	020 13	23
23 24	.587 10	·881 34	219 59	972 20	'412 90 '431 87	110 00	783 37	027 65	24
į.	.268 13	.858 70	1	• • •		' -	ı	1	
25	.549 08	835 87	214 19	956 62	450 92	164 13	785 81	.043 38	25
26	·529 95	81283	212 20	948 69	470 05	187 17	787 80	.021 31	26
27	510 74	789 57	212 38	940 65	489 26	210 43	.787 62 .789 82	°059 35	27 28
28	'491 43	766 10	'210 18	932 46	508 57	·233 90 ·257 61	709 01	007 54	29
29	'472 02	742 39	.500 99	924 14	'527 98	1	1		
30	'452 51	718 44	209 95	915 67	'547 49	281 56	790 05	084 33	30
31	'432 89	694 23	. 208 52	'907 04	'567 11	305 77	791 48	092 96	31
32	'413 15	.669 76	208 02	898 25	.586 85	330 24	791 98	101 75	32
33	393 29	645 02	206 91	·889 30	626 69	354 98 380 02	'793 09 '794 7 6	110 70	33 34
34	'373 3 ¹	.619 98	'205 24	_				11902	1 1
35	353 20	'594 65	'204 37	*870 91	·646 8o	'405 35	795 63	129 09	35
36	'332 95	.269 00	.505 91	861 44	667 05	'431 00	797 09	138 56	36
37	312 55	'543 01	200 92	'851 80	687 45	456 99	799 08	148 20	37
38	'292 01	.216 69	198 43	841 99	707 99	'483 31	801 57	158 01	38 39
39	271 32	'490 00	197 19	.832 01	.728 68	.210 00	1	167 99	
40	.250 46	462 92	194 84	82182	749 54	537 08	805 16	178 18	40
41	'229 44	435 44	193 08	'811 45	770 56	*564 56	806 92	188 55	41
42	208 23	'407 54	191 85	·800 86	791 77	1.592 46	.808 15	199 14	42
43	186 83	379 19	190 05	790 04	813 17	620 81	810 81	221 01	43 44
44	165 22	.350 36	.189 19	778 99	'834 78	1	1		1
45	143 39	'321 04	188 21	.767 68	856 61	678 96	811 79	232 32	45
46	121 32	291 18	187 99	756 09	.878 68	708 82	812 01	243 91	46
47	.098 99	260 77	.188 01		.901 01	739 23	.811.99	255 82	47 48
48	076 37	229 77	188 21	731 95	923 63	·801 87	·811 79	·268 05 ·280 65	48
4.9	· 0 53 46	.198 13	.189 33	719 35	.946 54	1		-	
50	·030 20	165 84	190 48	.706 34	.969 80	'834 16	809 52	293 66	50
51	.006 29	132 84	192 36	692 89	·993 4I	.867 16	807 64	307 11	51
52	3.982 57	.099 09	194 14	678 96	4.017 43	1900 91	805 86	321 04	52 59
58	958 12	°064 53	196 14	664 49	.041 88 .066 80	935 47	.803 86	335 51	53 54
54	·933 20	'029 14	.198 93	.649 47	1 333 33	9,000	551.57	'35° 53	
) NT	T I T	<u> </u>	<u> </u>	<u> </u>	l	

$$N_x = D_x + D_{x+1} + \dots$$

 $S_x = N_x + N_{x+1} + \dots$

 $\mathbf{0^{M}}$ logarithms and co-logarithms of D_x , N_x , C_x , M_x $\mathbf{4}_{\text{cent.}}^{\text{per}}$

$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$										
68 (88) 75 7955 59 1204 03 617 44 1118 25 044 41 795 97 382 56 56 68 (82) 87 87 94 120 66 600 35 1144 87 122 06 799 39 141 757 58 69 (770 90) 795 64 121 26 563 62 120 23 116 59 787 74 436 38 56 61 (7741 15) 752 55 126 24 553 62 120 23 116 59 787 74 436 38 60 62 (710 41) 798 04 121 60 550 10 128 85 124 45 783 76 476 99 61 63 (678 61) 662 20 118 8 14 453 24 354 36 385 62 781 86 546 76 64 65 (611 30) 1565 01 712 23 427 21 388 61 434 99 782 77 572 79 86 67 (358 57) 460 55 111 69 370 20 461 43 553 94 793 46 676 25 66 675 74 551 37 21 66 23 86 799 45 799 46 694 33	\boldsymbol{x}	$\log D_x$	$\log N_x$	$\log C_x$	$\log M_x$	$\operatorname{col} \operatorname{D}_x$	$\operatorname{col} \mathbf{N}_x$	$\operatorname{col} \mathbf{C}_{x}$	$\operatorname{col} \mathbf{M}_x$	x
68 (88) 75 7955 59 1204 03 617 44 1118 25 044 41 795 97 382 56 56 68 (82) 87 87 94 120 66 600 35 1144 87 122 06 799 39 141 757 58 69 (770 90) 795 64 121 26 563 62 120 23 116 59 787 74 436 38 56 61 (7741 15) 752 55 126 24 553 62 120 23 116 59 787 74 436 38 60 62 (710 41) 798 04 121 60 550 10 128 85 124 45 783 76 476 99 61 63 (678 61) 662 20 118 8 14 453 24 354 36 385 62 781 86 546 76 64 65 (611 30) 1565 01 712 23 427 21 388 61 434 99 782 77 572 79 86 67 (358 57) 460 55 111 69 370 20 461 43 553 94 793 46 676 25 66 675 74 551 37 21 66 23 86 799 45 799 46 694 33	E E	2:227.76	41000 87		2:622 82		7:005 25	2:508 50	7:066.00	EE
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101 2.756 75 2.877 37 .263 63 2.734 00 1.243 25 1.122 63 .436 37 1.266 00 101					1 *	-				100
							1,133 63			
202 00 202 00 245 57 245 57 157 40 157 45 154 45 202	102									
		20200	202 00	-45 57	4 40 0/	13/40	13/45	134 43	134 43	

$$N_x = D_x + D_{x+1} + \dots$$

 $S_x = N_x + N_{x+1} + \dots$

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VALUES OF a_x , A_x , P_x , and of \overline{a}_x , \overline{A}_x , \overline{P}_x

\boldsymbol{x}	a_x	\mathbf{A}_{x}	\mathbf{P}_{x}	\overline{a}_x	$\overline{\mathbf{A}}_{m{x}}$	$\overline{\mathrm{P}}_{x}$	x
10 11 12 13 14	20'450 20'340 20'226 20'108 19'986	'17 500 '17 923 '18 361 '18 815 '19 285	°00 816 °00 840 °00 865 °00 891 °00 919	20'946 20'836 20'722 20'604 20'482	17 848 18 280 18 727 19 190 19 668	00 852 00 877 00 904 00 931	10 11 12 13 14
15 16 17 18 19	19.859 19.728 19.593 19.453 19.309	19 205 19 773 20 277 20 798 21 334 21 889	00 919 00 948 00 978 01 010 01 043 01 078	20'355 20'355 20'224 20'089 19'949	20 166 20 680 21 210 21 759 22 323	'00 960 '00 991 '01 023 '01 056 '01 091 '01 127	15 16 17 18 19
20 21 22 23 24	19°160 19°007 18°851 18°690 18°524	22 461 23 047 23 652 24 272 24 907	01 114 01 152 01 191 01 233 01 276	19.656 19.503 19.347 19.186 19.020	'22 908 '23 508 '24.120 '24 751 '25 402	'01 165 '01 205 '01 247 '01 290 '01 336	20 21 22 23 24
25 26 27 28 29	18.355 18.181 18.004 17.822 17.637	25 559 26 226 26 910 27 608 28 322	°01 321 °01 367 °01 416 °01 467 °01 520	18·851 18·677 18·500 18·318 18·133	·26 065 ·26 747 ·27 442 ·28 155 ·28 881	°01 383 °01 432 °01 483 °01 537 °01 593	25 26 27 28 29
30 31 32 33 34	17'447 17'253 17'056 16'854 16'647	*29 051 *29 795 *30 556 *31 334 *32 127	°01 575 °01 632 °01 692 °01 755 °01 821	17'943 17'749 17'552 17'350 17'143	·29 626 ·30 387 ·31 160 ·31 952 ·32 764	.01 621 .01 412 .01 845 .01 845	30 31 32 33 34
35 36 37 38 39	16.436 16.220 16.001 15.776 15.545	'32 939 '33 767 '34 614 '35 480 '36 366	*01 889 *01 961 *02 036 *02 115 *02 198	16.932 16.716 16.497 16.272 16.041	33 591 34 439 35 298 36 180 37 086	'01 984 '02 060 '02 140 '02 223 '02 312	35 36 37 38 39
40 41 42 43 44	15.310 15.070 14.824 14.572 14.316	'37 270 '38 195 '39 141 '40 106 '41 093	°02 285 °02 377 °02 474 °02 575 °02 683	15.806 15.566 15.320 15.068 14.812	38 008 38 949 39 914 40 902 41 906	°02 405 °02 502 °02 605 °02 715 °02 829	40 41 42 43 44
45 46 47 48 49	14.054 13.786 13.514 13.236 12.953	'42 101 '43 129 '44 176 '45 246 '46 333	'02 797 '02 917 '03 044 '03 178 '03 321	14.550 14.282 14.010 13.732 13.449	'42 934 '43 985 '45 052 '46 142 '47 252	°02 951 °03 080 °03 216 °03 360 °03 513	45 46 47 48 49
50 51 52 53 54	12.666 12.374 12.077 11.777	'47 439 '48 562 '49 704 '50 859 '52 032	°03 471 °03 631 °03 801 °03 981 °04 172	13'162 12'869 12'572 12'272 11'967	'48 378 '49 527 '50 692 '51 868 '53 065	°03 676 °03 849 °04 032 °04 227 °04 434	50 51 52 53 . 54
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VALUES OF a_x , A_x , P_x , and of \overline{a}_x , \overline{A}_x , \overline{P}_x

\boldsymbol{x}	a_x	\mathbf{A}_{x}	P_x	\overline{a}_x	$ar{\mathbf{A}}_{m{x}}$	$\overline{\mathrm{P}}_{x}$	x
55	11.164	·53 216	°04 375	11.659	'54 ² 73	·04 655	55
56	10.823	.24 411	.04 590	11.348	55 492	·04 890	56
57	10.239	.55 619	'04 820	11.034	.56 724	'05 141	57
58	10.553	.56 834	05 064	10.418	57 963	'05 408	58
59	9.905	.58 056	'05 324	10,400	.59 210	·o5 693	59
60	9.586	·59 284	·05 600	10.080	·6o 466	.05 999	60
61	9.266	60 515	.05 895	9.760	61 720	·06 324	61
62	8.946	61 749	·06 209	9.440	62 977	06 672	62
63	8.625	62 981	·06 543	9.119	64 235	.07 044	63
64	8.306	64 210	·06 900	8.799	65 489	07 443	64
65	7.987	·65 43 6	07 281	8 [.] 480	·66 740	.07 870	65
66	7.670	66 653	·o7 688	8.163	67 983	08 328	66
67	7.356	67 863	08 122	7.848	69 218	·08 820	67
68	7.044	69 061	·o8 585	7.536	70 442	·09 347	68
69	6.736	70 247	.09 081	7.228	71 652	09 914	69
70	6'431	71 418	.09 610	6.923	.72 847	10 522	70
71	6.131	72 572	10 177	6.655	74 026	11 178	71
72	5.836	73 707	10 782	6.327	75 185	11 883	72
78	5.246	.74 824	11 430	6.036	.76 325	12 644	73
74	5.565	75 915	12 123	5.752	77 440	13 463	74
75	4.984	76 984	12 864	5.473	·78 533	'14 348	75
76	4.713	·78 o28	13 658	5°201	79 601	15 304	76
77	4 7 1 3 4 4 4 4 9	79 044	13 535	4.936	·80 640	16 337	77
78	4'191	·80 033	15 416	4.678	81 652	17 454	78
79	3'942	.80 993	16 389	4.428	·82 634	18 663	79
80	3'701	81 922	17 428	4.182	83 585	19 971	80
81	3'467	82 819	18 540	3.921	84 505	21 390	81
82	3.242	83 685	19 728	3.724	.85 392	22 927	82
83	3.052	·84 518	20 997	3.202	·86 24 6	·24 595	83
84	2.817	.85 318	'22 351	3.297	.87 069	26 408	84
85	2.618	·86 o86	·23 796	3.096	87 857	28 378	85
86	2.427	.86 818	25 331	2.004	.88 610	30 512	86
87	2'245	87 519	25 332	2'720	.89 331	32 839	87
88	2.073	.88 182	28 699	2.246	.00 019	35 361	88
89	1.000	.88 814	30 535	2.379	90 668	.38 107	89
90	1.42	.89 415	·32 488	2.551	91 291	41 111	90
91	1.606	189 977	34 525	2.02	91 875	44 347	91
92	1.466	90 517	36 709	1,050	92 436	47 932	92
98	1,338	.91 008	38 931	1.494	92 951	51 717	93
94	1,515	91 489	41 352	1.669	93 456	.56 008	94
95	1,103	91 916	43 738	1.224	93 905	60 432	95
96	.991	92 340	·46 368	1'440	94 353	65 537	96
97	1902	92 685	.48 726	1.346	94 721	70 378	97
98	·814	.93 031	51 286	1.523	95 087	.75 906	98
99	693	.93 500	.55 231	1.150	95 583	.84 872	99
100	'544	·94 o85	.60 935	·972	·96 190	.99 006	100
101	321	'94 896	·71 884	742	97 091	1.30 922	101
102	.000	96 154	96 154	414	98 376	2.37 612	102
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logarithms of a_x , A_x , P_x , and of \overline{a}_x , \overline{A}_x , \overline{P}_x

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11	\boldsymbol{x}	$\log a_x$	$\log \mathbf{A}_x$	$\log \mathbf{P}_x$	$\log\overline{a}_x$	$\log \overline{\mathbf{A}}_x$	$\log \overline{\mathbf{P}}_{x}$	æ
11			·					
11	10	1,331 73	1.243 04	3.011.61	1,351 10	1.521 20	2.030 E0	10
12 '346 87 '263 90 '937 03 '316 43 '272 47 '956 05 '131 395 '283 08 '969 12 13 14 '321 92 '285 23 '960 31 '311 37 '293 76 '982 39 14 15 '319 30 '296 08 '976 78 '308 67 '315 55 '299 96 16 17 '313 72 '318 02 '2004 30 '302 96 '326 54 '037 71 18 310 76 '329 08 '018 32 '299 92 '337 64 '037 71 18 19 '307 69 '340 23 '032 54 '299 77 '348 75 '052 00 19 20 '304 50 '351 42 '046 92 '293 50 '359 99 '066 48 20 21 '301 19 '362 62 '061 43 '299 10 '371 22 '081 10 22 110 62 23 22 '297 77 '373 86 '076 09 '286 61 '371 22 '081 10 110 62 23 23 <t< th=""><th></th><th></th><th></th><th></th><th></th><th>.261.08</th><th></th><th></th></t<>						.261.08		
18 324 45 274 51 950 06 313 95 283 08 969 12 18 16 321 92 285 23 963 31 311 37 293 76 982 39 14 16 316 95 396 08 976 78 308 67 304 62 295 96 15 16 316 56 307 01 990 45 305 87 315 55 2009 66 16 17 313 72 318 02 2004 30 302 96 337 64 203 77 18 19 307 69 340 23 103 24 290 77 348 75 502 00 19 20 304 50 351 42 046 92 293 50 359 99 066 48 20 21 301 19 302 62 061 43 290 10 371 22 081 10 21 22 297 77 373 86 076 09 286 62 88 393 59 110 62 28 23 294 24 385 10 090 86 282 98 393 59 110 62 28			263 00					
14 '321 92 '285 23 '963 31 '311 37 '293 76 '982 39 14 16 '319 30 '296 08 '976 78 '308 67 '304 62 '995 96 15 17 '313 72 '318 02 '2004 30 '305 87 '315 55 '203 58 17 18 '310 76 '329 08 '018 32 '299 92 '337 64 '037 71 18 19 '307 69 '340 23 '032 54 '296 77 '348 75 '052 00 19 20 '304 50 '351 42 '046 92 '293 50 '359 99 '066 48 20 21 '301 19 '362 62 '061 43 '290 10 '371 22 '081 10 21 22 '297 77 '373 86 '076 09 '286 61 '38 38 '905 76 '22 23 '292 17 '373 86 '076 09 '286 61 '38 33 39 '110 62 23 24 '299 57 '336 33 '120 75 '275 33 '416 06								
15 '319 30 '296 08 '976 78 '308 67 '304 62 '995 96 18 16 '316 56 '307 01 '990 45 '305 87 '315 55 '200 96 18 17 '313 72 '318 02 '2004 30 '302 96 '345 54 '23 58 '23 58 18 18 '310 76 '329 98 '018 32 '299 97 '348 75 '052 00 19 20 '304 50 '351 42 '046 92 '293 50 '359 99 '066 48 20 21 '301 19 '362 62 '061 43 '290 10 '371 22 '081 10 21 22 '297 77 '373 86 '076 09 '286 61 '32 38 '095 76 22 23 '299 27 '404 87 '125 68 24 24 '290 57 '303 33 '105 76 '279 21 '404 87 '125 68 24 25 '288 8 '418 74 '135 86 '271 33 '416 60 '140 72 '140 60			285 22				909 12	
16 316 56 307 01 990 45 305 87 315 55 2009 66 18 17 313 72 318 02 2004 30 302 96 326 54 2023 58 18 18 310 76 329 08 329 32 299 92 337 64 037 71 18 19 307 69 340 23 032 54 296 77 348 75 052 00 19 20 304 50 351 42 046 92 293 50 359 99 066 48 20 21 301 19 362 62 061 43 290 10 371 22 081 10 21 22 297 77 373 86 076 09 286 61 382 38 095 76 22 23 294 24 385 10 090 86 282 98 393 59 110 62 28 24 290 57 396 33 105 76 279 21 404 87 125 68 24 25 288 79 407 54 120 75 275 33 416 07 140 73 28		3 9-	1	1		293 70	902 39	1.2
17	15					·304 62	·995 96	15
17		'316 56		_'990 45	·305 87	315 55	<u>2</u> .009 66	16
18	_		'318 02	2.004 30	·302 96	·326 54	023 58	17
19 '307 69 '340 23 '032 54 '296 77 '348 75 '052 00 19 20 '304 50 '351 42 '046 92 '293 50 '359 99 '066 48 20 21 '301 19 '362 62 '061 43 '290 10 '371 22 '081 10 21 22 '297 77 '373 86 '076 09 '286 61 '382 38 '395 76 '22 23 '294 24 '385 10 '090 86 '282 98 '393 59 '110 62 28 24 '290 57 '396 33 '105 76 '279 21 '404 87 '125 68 24 25 '286 79 '407 54 '120 75 '275 33 '416 06 '140 73 26 26 '282 88 '418 74 '135 86 '271 31 '427 28 '155 97 28 27 '278 83 '429 91 '151 08 '267 17 '438 42 '171 23 27 28 '274 67 '441 03 '166 36 '262 88 '449 56	18	·310 76	·329 o8	'018 32	.566 65		°037 71	18
21	19	'307 69	'340 23	'032 54	·296 77	·348 75	'052 00	19
21	20	304 50	251 42	.046.03	.303 20	.320.00	°066.48	20
22 '297 77 '373 86 '076 09 '286 61 '382 38 '095 76 22 23 '294 24 '385 10 '090 86 '282 98 '393 59 '110 62 23 24 '290 57 '396 33 '105 76 '279 21 '404 87 '125 68 24 25 '286 79 '407 54 '120 75 '275 33 '416 06 '140 73 25 26 '282 88 '418 74 '135 86 '271 31 '427 28 '155 97 28 27 '278 83 '429 91 '151 08 '267 17 '438 42 '171 23 27 28 '274 67 '441 03 '166 36 '262 88 '449 56 '186 67 28 29 '270 37 '452 12 '181 75 '258 47 '460 61 '202 13 29 30 '265 93 '463 16 '197 23 '249 7 '482 69 '233 50 31 31 '265 134 '474 15 '228 49 '244 33 '493 60 <								
28							1	
24 '290 57 '396 33 '105 76 '279 21 '404 87 '125 68 24 25 '286 79 '407 54 '120 75 '275 33 '416 06 '140 73 25 28 '282 88 '418 74 '135 86 '271 31 '427 28 '155 97 28 277 278 83 '429 91 '151 08 '267 17 '438 42 '171 23 27 28 '274 67 '441 03 '166 36 '262 88 '449 56 '186 67 28 29 '270 37 '452 12 '181 75 '258 47 '460 61 '202 13 29 30 '265 93 '463 16 '197 23 '253 90 '471 67 '217 77 30 31 '261 34 '474 15 '212 81 '249 17 '482 69 '233 50 31 32 25 73 '496 01 '244 28 '239 30 '504 50 '265 20 32 38 '251 73 '496 01 '244 28 '239 30 '505 50 '265 20 33								
25			306 33					
26 '282 88 '418 74 '135 86 '271 31 '427 28 '155 97 28 27 '278 83 '429 91 '151 08 '267 17 '438 42 '171 23 27 28 '274 67 '441 03 '166 36 '262 88 '449 56 '186 67 28 29 '270 37 '452 12 '181 75 '258 47 '460 61 '202 13 29 30 '265 93 '463 16 '197 23 '253 90 '471 67 '217 77 30 31 '261 34 '474 15 '212 81 '249 17 '482 69 '233 50 31 32 '256 61 '485 10 '228 49 '244 33 '493 60 '249 27 32 33 '251 73 '496 01 '244 28 '239 30 '504 50 '265 20 33 34 '246 67 '506 87 '260 20 '234 09 '515 40 '281 31 34 35 '241 45 '517 71 '276 26 '228 71 '526 22 <			ì				125 00	27
27								25
28 '274 67 '441 03 '166 36 '262 88 '449 56 '186 67 28 29 '270 37 '452 12 '181 75 '258 47 '460 61 '202 13 29 30 '265 93 '463 16 '197 23 '253 90 '471 67 '217 77 90 31 '261 34 '474 15 '212 81 '249 17 '482 69 '233 50 31 32 '256 61 '485 10 '228 49 '244 33 '493 60 '249 27 32 38 '251 73 '496 01 '244 28 '239 30 '504 50 '265 20 38 34 '246 67 '506 87 '260 20 '228 71 '526 22 '297 52 35 36 '241 45 '517 71 '276 26 '228 71 '526 22 '297 52 35 36 '236 05 '528 49 '292 44 '223 13 '537 05 '313 91 36 37 '230 46 '539 25 '308 79 '217 41 '547 75 <					.521 31			26
29 '270 37 '452 12 '181 75 '258 47 '460 61 '202 13 29 30 '265 93 '463 16 '197 23 '253 90 '471 67 '217 77 30 31 '261 34 '474 15 '212 81 '249 17 '482 69 '233 50 31 32 '256 61 '485 10 '228 49 '244 33 '493 60 '249 27 32 38 '251 73 '496 01 '244 28 '239 30 '504 50 '265 20 33 34 '246 67 '506 87 '260 20 '234 09 '515 40 '281 31 34 35 '241 45 '517 71 '276 26 '228 71 '526 22 '297 52 35 36 '236 05 '528 49 '292 44 '223 13 '537 05 '313 91 36 37 '230 46 '539 25 '308 79 '217 41 '547 75 '330 33 37 38 '224 46 '571 36 '358 90 '218 82 '579 88 <	27		'429 91		.267 17		171 23	27
29 '270 37 '452 12 '181 75 '258 47 '460 61 '202 13 28 80 '265 93 '463 16 '197 23 '253 90 '471 67 '217 77 90 81 '261 34 '474 15 '212 81 '249 17 '482 69 '233 50 31 82 '256 61 '485 10 '228 49 '244 33 '493 60 '249 27 32 83 '251 73 '496 01 '244 28 '239 30 '504 50 '265 20 33 84 '246 67 '506 87 '260 20 '234 09 '515 40 '281 31 34 85 '241 45 '517 71 '276 26 '228 71 '526 22 '297 52 35 36 '236 05 '528 49 '292 44 '223 13 '537 05 '313 91 36 37 '230 46 '539 25 '308 79 '217 41 '547 75 '330 33 37 38 '224 68 '549 98 '325 30 '217 41 '547 75 <	28		'441 03	166 36		'449 56	·186 67	28
81 '261 34 '474 15 '212 81 '249 17 '482 69 '233 50 81 82 '256 61 '485 10 '228 49 '244 33 '493 60 '249 27 32 83 '251 73 '496 01 '244 28 '239 30 '504 50 '265 20 38 84 '246 67 '506 87 '260 20 '234 09 '515 40 '281 31 34 85 '241 45 '517 71 '276 26 '228 71 '526 22 '297 52 35 36 '236 05 '528 49 '292 44 '223 13 '537 05 '313 91 36 87 '230 46 '539 25 '308 79 '217 41 '547 75 '330 33 37 88 '224 68 '549 98 '325 30 '211 44 '558 47 '347 04 38 39 '218 68 '560 69 '342 01 '205 23 '569 21 '363 99 39 40 '212 46 '571 36 '358 90 '198 82 '579 88 '381 04 40 41 '206 00 '582 01 '376 01 <t< th=""><th>29</th><th>'270 37</th><th>452 12</th><th>181 75</th><th>.258 47</th><th></th><th>.505 13</th><th>29</th></t<>	29	'270 37	452 12	181 75	.258 47		.505 13	29
81 '261 34 '474 15 '212 81 '249 17 '482 69 '233 50 81 82 '256 61 '485 10 '228 49 '244 33 '493 60 '249 27 32 83 '251 73 '496 01 '244 28 '239 30 '504 50 '265 20 38 84 '246 67 '506 87 '260 20 '234 09 '515 40 '281 31 34 85 '241 45 '517 71 '276 26 '228 71 '526 22 '297 52 35 36 '236 05 '528 49 '292 44 '223 13 '537 05 '313 91 36 87 '230 46 '539 25 '308 79 '217 41 '547 75 '330 33 37 88 '224 68 '549 98 '325 30 '211 44 '558 47 '347 04 38 39 '218 68 '560 69 '342 01 '205 23 '569 21 '363 99 39 40 '212 46 '571 36 '358 90 '198 82 '579 88 '381 04 40 41 '206 00 '582 01 '376 01 <t< th=""><th>30</th><th>265 03</th><th>.463 16</th><th>107 23</th><th>253 00</th><th>.471 67</th><th>21777</th><th>90</th></t<>	30	265 03	.463 16	107 23	253 00	.471 67	21777	90
82 '256 61 '485 10 '228 49 '244 33 '493 60 '249 27 82 83 '251 73 '496 01 '244 28 '239 30 '504 50 '265 20 83 84 '246 67 '506 87 '260 20 '234 09 '515 40 '281 31 84 85 '241 45 '517 71 '276 26 '228 71 '526 22 '297 52 35 86 '236 05 '528 49 '292 44 '223 13 '537 05 '313 91 36 87 '230 46 '539 25 '308 79 '217 41 '547 75 '330 33 37 88 '224 68 '549 98 '325 30 '211 44 '558 47 '347 04 38 390 '218 68 '560 69 '342 01 '205 23 '569 21 '363 99 39 40 '212 46 '571 36 '358 90 '198 82 '579 88 '381 04 40 41 '206 00 '582 01 '376 01 '192 18 '590 50		261 34						
88 '251 73 '496 01 '244 28 '239 30 '504 50 '265 20 88 84 '246 67 '506 87 '260 20 '234 09 '515 40 '281 31 84 85 '241 45 '517 71 '276 26 '228 71 '526 22 '297 52 35 86 '236 05 '528 49 '292 44 '223 13 '537 05 '313 91 36 87 '230 46 '539 25 '308 79 '217 41 '547 75 '330 33 37 88 '224 68 '549 98 '325 30 '211 44 '558 47 '347 04 38 39 '218 68 '560 69 '342 01 '205 23 '569 21 '363 99 39 40 '212 46 '571 36 '358 90 '198 82 '579 88 '381 04 40 41 '206 00 '582 01 '376 01 '192 18 '590 50 '398 32 41 42 '199 31 '592 63 '393 32 '185 26 '601 13 <			485 10					
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36 '236 o5 '528 49 '292 44 '223 13 '537 o5 '313 91 36 37 '230 46 '539 25 '308 79 '217 41 '547 75 '330 33 37 38 '224 68 '549 98 '325 30 '211 44 '558 47 '347 04 38 39 '218 68 '560 69 '342 01 '205 23 '569 21 '363 99 39 40 '212 46 '571 36 '358 90 '198 82 '579 88 '381 04 40 41 '206 00 '582 01 '376 01 '192 18 '590 50 '398 32 41 42 '199 31 '592 63 '393 32 '185 26 '601 13 '415 86 42 43 '192 36 '603 21 '410 85 '178 06 '611 74 '433 69 43 44 '185 14 '613 77 '428 63 '170 61 '622 28 '451 66 44 45 '177 65 '624 29 '446 64 '162 86 '632 80 '469 94 45 48 '161 78 '645 19 '483 41 <t< th=""><th>98</th><th>247.45</th><th></th><th>1</th><th></th><th>1</th><th>-</th><th>OE.</th></t<>	98	247.45		1		1	-	OE.
87 '230 46 '539 25 '308 79 '217 41 '547 75 '330 33 87 88 '224 68 '549 98 '325 30 '211 44 '558 47 '347 04 38 39 '218 68 '560 69 '342 01 '205 23 '569 21 '363 99 39 40 '212 46 '571 36 '358 90 '198 82 '579 88 '381 04 40 41 '206 00 '582 01 '376 01 '192 18 '590 50 '398 32 41 42 '199 31 '592 63 '393 32 '185 26 '601 13 '415 86 42 43 '192 36 '603 21 '410 85 '178 06 '611 74 '433 69 48 44 '185 14 '613 77 '428 63 '170 61 '622 28 '451 66 44 45 '177 65 '624 29 '446 64 '162 86 '632 80 '469 94 45 46 '169 86 '634 77 '464 91 '154 79 '643 30 '488 51 48 47 '161 78 '645 19 '483 41 <t< th=""><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th></t<>								
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			.696 39		'099 40			
54 ·095 94 ·716 27 ·620 33 ·077 99 ·724 81 ·646 82 54			706 37				625 99	
	54	'095 94	716 27	620 33	·077 99	72481	.646 82	54
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LOGARITHMS OF a_x , A_x , P_x , AND OF \overline{a}_x , \overline{A}_x , \overline{P}_x 4 PER CENT.

x	$\log a_x$	$\log A_x$	$\log P_x$	$\log ar{a}_x$	$\log \overline{\mathbf{A}}_{x}$	$\log \overline{\mathrm{P}}_{m{x}}$	\boldsymbol{x}
55	1.082 00	7.726 04	2.640 95	1.066 66	ī·734 58	2.667 92	55
56	.073 84	.735 69	661 85	·054 92	'744 ² 3	689 32	56
57	·062 18	'745 22	·683 o4	·042 73	753 77	71103	57
58	050 12	754 61	704 49	.030 11	.763 15	·733 0 4	58
59	·037 64	763 85	.726 21	.017 03	772 40	.755 3 6	59
60	'024 74	772 94	.748 20	.003 46	.781 51	.778 05	60
61	'011 40	781 86	770 46	0.989 46	790 43	·800 96	61
62	0.997 63	790 63				824 23	62
63			'793 00	974 95	'799 18	024 23	
	983 41	799 21	·815 80	959 95	.807 77	847 82	63
64	'968 74	·8o7 6o	·838 86	[*] 944 44	·816 17	.871 72	64
65	953 62	'815 82	·862 20	'92841	·824 39	·895 98	65
66	·938 o3	823 82	·885 79	91187	832 40	920 54	66
67	921 98	831 63	909 65	·894 78	·84 0 22	945 44	67
68	905 47	839 23	933 76	877 16	847 83	970 67	68
69	888 50	846 63	958 13	.859 00	855 23		69
1		1				-996 23	
70	.871 07	·853 81	_ 982 74	.840 30	·862 41	1.033 10	70
71	.853 17	·86o 77	ī.007 60	.821 02	·869 <u>3</u> 8	·048 3 6	71
72	·834 81	867 51	'032 70	·801 19	·876 13	·074 93	72
73	.815 99	.874 04	.058 02	.780 77	·882 67	.101 88	73
74	.796 73	·88o 33	.083 60	759 82	·888 97	129 14	74
i			_				_
75	777 02	·886 4o	109 38	738 25	·895 o5	156 79	75
76	756 85	892 25	135 40	.416 10	900 92	·184 81	76
77	.736 29	897 87	.161 28	·69 3 3 8	·9 0 6 55	.513 12	77
78	715 29	903 27	187.98	·670 o8	'91197	. 241 90	78
79	.693 91	908 45	*214 54	·646 19	917 16	·270 98	79
80	672 15	'913 40	241 25	621 74	922 13	300 40	80
81	'650 01	91813	268 12	596 67	926 88	330 21	81
	627 56		1				82
82		922 65	'295 09	571 07	'931 42	360 35	
83	604 80	926 95	322 15	544 90	935 74	390 85	83
84	·581 74	'931 04	'3 49 30	.21813	939 86	421 74	84
85	·558 43	934 93	.376 20	·490 80	'943 78	452 98	85
86	534 96	'938 61	'403 65	·463 oı	'947 48	·484 47	86
87	511 27	942 10	430 83	434 62	951 00	516 39	87
88	487 52	945 38	457 86	405 79	954 32	548 52	88
89	463 68	948 48	484 80	376 45	957 45	.281 00	89
1	_	1 1	1		.	1 -	
90	439 69	951 41	.211 72	346 47	'960 43	613 96	90
91	416 00	954 13	.238 13	'316 33	'963 20	.646 86	91
92	.3 91 96	956 73	.564 77	.285 22	965 84	.680 63	92
93	368 78	·959 o8	.290 30	.254 62	968 25	.71363	93
94	'344 87	961 37	616 50	'222 35	·970 61	748 25	94
95	322 53	963 39	·640 86	191 42	972 69	.781 27	95
96	299 17	965 39	666 22	158 27	974 76	816 49	96
			687 76		974 70	·847 44	97
97	279 25	967 01		129 01		·880 28	98
98	258 63		'710 00	097 85	978 12		99
99	1228 63	.970 81	'742 18	.021 65	·98o 38	928 76	ļ.
100	188 65	973 52	.784 87	ī·987 47	·983 13	995 66	100
101	120 62	977 25	·856 63	.870 17	987 18	0'117 01	101
102	.000 00	982 97	982 97	617 02	992 89	375 86	102
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VALUES OF TEMPORARY ANNUITIES OF 1

Dura-	10	II	12	13	14	15	16	17	18	19	Dura-
tion.	20.450	20.340	20.226	20.108	19.986	19.859	19.728	19.598	19.453	19:309	tion.
0	.000	.000	.000	.000	.000	,000	.000	,000	.000	.000	0
1 2	958	·958	.958 1.876	°958 1°876	·958	1.876	1.876	'958 T'8#6	.958 1.875	.958 1.875	1
3	1.877 2.757	1.876 2.756	2.756	2.756	1.876 2.756	2.755	2.755	1.876 2.754	2.754	2.753	2 3
4	3.600	3.299	3.259	3.298	3.298	3.257	3.25%	3.296	3.595	3.594	4
5	4.407	4.407	4.406	4.406	4.402	4.404	4.403	4.403	4.400	4'399	5
6	2.181	2.181	2.180	5.179	5.178	5.176	5.172	5.173	5'171	5.169	6
7 8	5.923 6.633	5.922 6.632	5.921 6.630	5.919	5.918 6.627	5.616 6.624	5.914 6.622	5.912	5.000	5.907 6.613	7 8
9	7.313	7.312	7.310	7.308	7:305	7:302	7.299	7'295	7.291	7.286	9
10	7.965	7.963	7.961	7.958	7.955	7.951	7 '947	7.942	7'937	7.931	10
1	8.289	8.586	8.283	8.280	8.576	8.572	8.262	8.261	8.222	8.548	1
2 3	9.187	9°183	9'180 9'751	9°176 9°746	9°171 9°740	9°166 9°734	9°160 9°727	9.123 9.119	9°146	9.138	2 3
4	9 . 759	9 7 5 5	10.562	10.501	10.584	9 734	10.560		10.520	9'701	4
15	10.830	10.822	10.819	10.813	10.802	10.496	10.787	10.777	10.466	10.753	15
6	11.335	11.326	11.319	11.311	11.303	11.503	11.585	11.521	11.528	11.544	в
7	11.812	11.802	11.797	11.788	11.778	11.767	11.755	11.742	11.728	11.712	7
8	12.211	12.263	12.224	12.244	12.533 12.662	12.623	12.207	12.193	12.177	12.159	8 9
20	13.150	13.110	13.108	13.096	13.085	13.067	13.020		13.013	12.005	20
1	13.230	13.219	13.207	13.493	13.478	13.461	13.443		13.402		ī
2	13.914	13.001	13.888	13.872	13.826	13.837	13.818	13.796	13.773	13.748	2
3 4	14.280	14.266	14.221	14'235	14'216	14'196	14.175	14'152	14'127	14.099	3 4
- 1	14.629	14.614	14.298	14'580	14 [.] 560 14 [.] 888	14.539	14.212	14'490	14.463	14'434	
25 6	14.963	14°947 15°264	14.929 15.245	14.910	15.201	14.865	14.840	14.813	15.089	14.752 15.055	25 6
7	15.286		15.246	15.23	15.499	15.472	15.443	15.412	1	15'343	7
8	15.876	15.822	15.833	15.809	15.485	15.753	15.722		15.654	15.616	8
9	16.12	16.130	16.106	1 6.0 80	16.02	16.021	15.989		15.916	15.875	9
30 1	16.416 16.667	16.392	16.367	16.339	16.200 16.223	16.276	16.482	16 ·20 4	16 '16 4	16.322 16.322	30
2	16.004	16:879	16.820	16.819	16.785	16.749	16.410	16.668	16.623	16.222	2
3	17.133	17.102	17.075	17.042	17.006	16.967	16.026	16.885	16.832	16.784	3
4	17:350	17.320	17.288	17.253	17.215	17.174	17.131	17.085	17:035	16.982	4
35	17.556	17.524	17.490	17.453	17.414	17:371	17.325	17:277	17.224	17.169	35 a
6 7	17.752	17.718	17.682	17.644	17.602	17.557	17.209		17.403	17.345	6 7
8	18.114	18.077	18.038	17.995	17'949	17.899	17.847	17.791	17.730	17.666	8
9	18 282	18.243	18.301	18.126	18.108	18.026	18.001	17.943	17.880	17.813	9
40	18.440			18.309		18.302	18.147		18.020	17.950	40
1	18.291		18.202		18.401	18.344	18.284	18.346	18'151	18.078	1
2 3	18.733	18.688 18.821	18.641 18.771	18.230		18.475 18.200	18.413	18.464	18.380	18.310	2 3
4	18.994	18.945	18.894	18.838						18.414	4
45	19'114	ı	19.009	1	1	18.822	18.752	18.676	18.296	18.210	45
В	19.227	19'174	19.118	19.057	18.993	18.923	18.820	18.771	18.688		6
7	19'333		19.219	19.157			18.941 19.026	18.860	18.773	18.681	7 8
8 9	19.432	19'375	19.314	19.336			19.104	19,016	18.923	18.825	9
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	10	II	12	13	14	15	16	17	18	19	

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VALUES OF TEMPORARY ANNUITIES OF 1

Duration. O 1 2 3 4 5 6 7 8 9 10 1	19·160 ·000 ·958 1·875 2·753 3·593 4·397 5·167 5·903 6·608	19·007 '000 '958 1·874 2·752 3·592 4·395 5·164	18:851 '000 '957 1:874 2:751 3:590 4:393	18·690 '000 '957 1·873 2·750 3·589	18·524 '000 '957 1·873 2·749	18: 355	18:181	18.004	17.822	17:637	tion.
1 2 3 4 5 6 7 8 9	.958 1.875 2.753 3.593 4.397 5.167 5.903 6.608	'958 1'874 2'752 3'592 4'395 5'164	.957 1.874 2.751 3.590	.957 1.873 2.750	.957 1.873	957		.000			
2 3 4 5 6 7 8 9	1.875 2.753 3.593 4.397 5.167 5.903 6.608	1.874 2.752 3.592 4.395 5.164	1.874 2.751 3.590	1.873 2.750	1.873				.000	.000	0
3 4 5 6 7 8 9	2.753 3.593 4.397 5.167 5.903 6.608	2.752 3.592 4.395 5.164	2.751 3.290	2.750			957	'957	956	.956	1
4 5 6 7 8 9	3.593 4.397 5.167 5.903 6.608	3.592 4.395 5.164	3.290		2 /49	1.872	1.872	1.871	1.871	1.870	2 3
5 6 7 8 9	4'397 5'167 5'903 6'608	4°395 5°164		3 3 2 3 1	3.587	2.748 3.586	2°747 3°584	2.746 3.582	3.244 3.280	2°743 3°577	4
6 7 8 9 10	5.164 2.008 6.008	5.164	1 4 545		4.389	4.386	4.383	4.380	4'377		5
7 8 9 10	5.003 6.608		2.191	4.391 2.128	5.122	5.121	5.148	5'143	5'139	4°374 5°135	6
8 9 10	6.608	5.000	5.896	5.892	5.887	5.883	5.878	5.872	5.867	5.861	7
10	_,_0_	6.603	6.298	6.293	6.587	6.281	6.222	6.268	6.261	6.223	8
	7.281	7.276	7.269	7.263	7.256	7.248	7:240	7.232	7.553	7.214	9
1	7.925	7.918	7.911	7.903	7.894	7.885	7.876	7.865	7.855	7.844	10
	8.241	8.532	8.234	8.214	8.204	8.493	8.482	8.470	8.457	8.444	1
2	9'129	6. 680	6.668	9.655	9.086 9.086	9.627 9.627	6.611 6.060	9 .0 46	9°032	9.261 9.019	2 3
3 4	9.691 10.522	10.512	10.501	10.186	10.141	10.124	10.132	10.118	10,100	10.080	4
	•	10.432	10.410	10.693		10.624	10.637	10.614	10.202	10.223	15
15 6	10'740	11,515	11.192	11.146		11.136	11'114	11,001	11.062	11'042	6
7	11.692	11.677	11.628	11.637		11.202	11.268	11.242		11.488	7
8	12'140	12'120	12.099	12.076	12.025	12.024	12.000	11.972	11.943	11.912	8
9	12.262	12.242	12.219	12.494	12.467	12.440	12'410	12.380	12.348	12.314	9
20	12.969	12.042	12.019	12.892	12.863	15.833	12.801	12.769	12.432	12.695	20
1	13.324	13.328	13.300	13.570		13'206	13'171	13.132	13.097	13.024	1
2	13.721	13.693	13.662	13.630		13.261	13.857	13.484	13'443	13.399	2 3
3 4	14.071	14'370	14'007	13'972	13'936 14'258	14.512	14.143	14.158	13.770	13.723	4
1 1		14.683	14.646	14.606		•	14'473	14'424	14'373	14'319	25
25 6	14.719	14.081	14'941	14.899		14.807	14.757	14.404	14.649	14'592	6
7	15.302	15.264	1	15'176		15.078		14.969	14'910	14.848	7
8	15.272	15.232	15.487	15.439		15'334	15.278	12.518	15.126	15.000	8
9	15.832	15.787	15.738	15.687		15.27	15.216	15'453	15.387	15.314	9
30	16.076	16.058	15.976	15.922	15.862	12.802	15.41	15.674	15.604	12.230	30
	16.307	16.255	16.501	16'144		16.030	15.953	15.882	15.807	15.729	1
3	16.225 16.231	16.471	16.414	16.323	16.483	16.413	16.332	16.076 16.258	15.998	16.088	2 3
4	16.926	16.866	16.803	16.736	16.662	16.201	16.211	16.428	16.341	16.349	4
35	17.110	17.047	16.080	16.010		16.424	16.674	16.282	16.495	16.398	35
8	17.283	17:217	17.147	17.073	16.992	16.913	16.826	16.734	16.637	16.236	6
7	17'445	17.376	17.303	17.226	17.144	17.058	16.966	16.870	16.769	16.663	7
8	17.598	17.526	17.449	17:368		17.193	17:097	16.996	16.891	16.779	8
9	17.741	17.666	17.586	17.501		17.317	17.217	17.112	17.002	16.886	9
40			17.713			17.433				16.983	40
1 2	18.001		17.831	17.739		17.539	17.431			17.071	1 2
8	18.536		18.042							17.221	3
4				18.033		17.807	17.686			17.285	4
45	18.419			18.113			17.755	17.623		17:341	45
в	18.204	18.402	18.599	18.188	18.040	17'947	17.818	17.681	17.239	17:390	6
7	18.283	18.480		18.522		18.007		17.733		17.433	7
8	18.655	18.548		18.316		18.060		17.778		17.471	8
	18.720	18.610	18.493	18.371	10 242	10 107	17.966	17.817		17.203	
	20	21	22	23	24	25	26	27	28	29	

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VALUES OF TEMPORARY ANNUITIES OF 1

Dura-	30	31	32	33	34	35	36	37	38	39	Dura-
tion.	17:447	17:253	17:056	16.854	16:647	16.436	16.220	16.001	15.776	15.545	tion.
0	.000	.000	.000	.000	.000	.000	.000	.000	.00 0	.00 0	0
1	.956	.956	'955	955	955	954	954	954	953	953	1
2	1.869	1.868	1.868	1.867	1.866	1.865	1.864	1.863	1.862 2.728	1.861 2.426	2 3
3 4	2.742	2.740	2.139 3.240	2°737 3°567	2°735 3°565	2.734 3.262	2.732 3.259	2.730 3.256	3.223	3.249	4
	3.575	3°573 4°367	4.363		4.322		4'347	4'342	4.338	4'332	5
5 6	4°371 5°130	5.152	5.150	4°359	5.100	4°351 5°103	5.097	5.001	5.084	5.077	6
7	5.855	5.848	5.841	5.834	5.827	5.819	5.812	5.803	5.795	5.482	7
8	6.546	6.537	6.23	6.20	6.211	6.201	6.491	6.481	6.470	6.458	8
9	7:204	7'194	7.184	7'173	7.162	7.120	7.138	7.134	7.111	7.096	9
10	7.832	7.820	7.808	7.795	7.781	7.767	7.752	7.736	7.719	7.701	10
1	8.431	8.417	8'402	8.386	8.370	8.353	8.335	8.317	8.297	8.275	1
2	9.001	8.984	8.967	8.949	8.930	8.910	8.889	8·867 9·389	8·844 9·362	8.819	2 3
3 4	9.243	9°524 10°037	9.204	9 . 483	9 . 461	9°439 9°940	9'415	9.884	9.853	9.819	4
	10.029		"				10.384	10,321	10.316	10.524	15
15 6	11.016	10.222	10.200	10.473	10.442	10.412	10.831	10.793	10.754	10.711	18
7	11.459	11'429	11.397	11'364	11,350	11'292	11.523	11.511	11.164	11,110	7
8	11.880	11.846	11.811	11.774	11.735	11.694	11.621	11.602	11.226	11.203	8
9	12.279	12.343	12.303	12.163	12'120	12.074	12.027	11.975	11.921	11.863	9
20	12.657	12.617	12.275	12.230	12.483	12'433	12.381	12.324	12.265	12.301	20
1	13.012	12.971	12.925	12.877	12.825	12.771	12.413	12.652	12.287	12.217	1
2	13.354	13.306		13.503	13'147	13.088	13.056	13.020	12.888	12.812	2
8	13.675	13.623	13.269	13.211	13.451	13.387	13.319	13.246	13.169	13.086	3
4	13.977	13.921	13.863	13.801	13.735	13.666	13.293	13.214	13.431	13.342	4
25	14.565	14.505	14'140	14.073	14'002	13.928		13.764	13.675	13.279	25
6	14.231	14.467	14'399	14'328	14.252	14'172	14'087	13.997	13.001	13.797	6 7
7 8	14.784	14.715	14.643	14.789	14.485	14.400	14.309	14'411	14.301	13.999	8
9	15.021	15.166	15.084	14'997	14,002	14.807		14'594	14.478	14.323	9
30	15'452	15.369	15.585	15,130		14.080	_	14.763	14.639	14.202	30
1	15.646	12.228	15.466	12.369	15.562	12,122	15'040	14.019	14.786	14.647	1
2	15.827	15.735	15.637	15.234	15.424	15.300		15.057	14.919	14.773	2
3	15'995	15.898	15.795	15.686	15.21	15.449	15.350	15.184	15.039	14.886	8
4	16.121	16.049	15'940	15.826	15.4	15.276	15.442	15.398	15.147	14.986	4
35	16.596	16.188	16.074	15.953	15.826	15.692	15.221	15.401	15.243	15.076	35
6	16.428	16.312	16.199	16.070		15.796	15.649	15.492	15.328	15'154	6
7	16.220	16.432	16.307	16'175	16.036	15.890	15.736	15.574	15.403	15.585	7 8
8 9	16.662 16.763	16.238 16.634	16.408	16.320	16.302	15.973	15.882	15.45	15.524	15'332	9
1		-	1		-		15'941			15.372	40
40 1	16°855	16.721	16.280 16.623	16.432		16.160	15'992			15'411	1
2	17.013	16.868		16.228		16.518	16.036			15'441	2
3	17.079	16.930	16.774	16.610		16.360		15.879	15.677	15 466	3
4	17.138	16.984	16.823	16.652	16.479	16.592			15.400	15.485	4
45	17'190	17.031	16.866	16.693	16.213	16.322				15.201	45
6	17.235	17.072		16.725	16.241	16.320	16.125	15.946	15'734	15.213	6
7	17.274	17.107		16.753	16.262	16.370		15.960		15.22	7
8	17:307	17.136	16.959	16.775	16.284	16:387	16.183	15.030		15.23	8
9	17.335	17.161	16.981	16.494	16.600	16.400	16.193	15.080		15.234	
	30	31	32	33	34	35	36	37	38	39	
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VALUES OF TEMPORARY ANNUITIES OF 1

Dura-	40	41	42	43	44	45	46	47	48	49	Dura-
tion.	15:310	15.070	14.824	14.572	14:316	14.054	13.786	18.514	13:236	12.958	tion.
0	.000	.000	.000	.000	.000	.000	*000	.000	.000	.000	0
1	953	952	952	.921	.951	.950	.950	949	'949	•948	1
2	1.860	1.829	1.828	1.826	1.855	1.823	1.823	1.850	1.848	1.846	2
8	2.4	2.721	2.419	2.416	2.413	2.710	2.707	2.403	2.699	2.695	3
4	3.246	3.245	3.238	3.233	3.258	3.23	3.218	3.212	3.202	3'498	4
5	4'327	4.321	4'315	4.308	4.305	4°294	4.582	4.276	4.267	4.256	5
6	5.070	5.062	5.023	5.044	5.034		5.013	4.999	4.986	4.971	6
7	5.775	5.765	5.754	5.741	5.728		5.699	5.682	5.664	5.644 6.278	8
8	6.445	6.432 7.064	6.417 7.046	6.402 7.036	6·385	6·367 6·983	6.347 6.959	6.326 6.332	6.303	6.873	9
I .		1 ' '	1 ' . '		1 *		1	i		'•	i i
10	7:683	7.662	7.641	7.617	7.592	7:564	7:535	7.203	7:468	7.430	10 1
1 2	8·253 8·793	8·229 8·764	8·203 8·734	8·175 8·700	8·145 8·665	8·112 8·627	8.076 8.585	8.038 8.240	7 [.] 997 8 [.] 492	7.952 8.439	2
3	6,303	9.269	9'234	9,196	9.122	0.110	9.063	9.010	8.954	8.893	3
4	9.784	9.746		9.662	9.615	9.264	9.208	9.449	9.384	9,312	4
15		10,162	j	1			1	9.858	9.784	9.706	15
6	10.666	10.618	10.140	10.200	10.046	10.384	9.925	10.532	10.122	10.062	8
7	11.060	11.014	10.956	10.803		10.753	10.674	10.234	10.498	10'400	7
8	11.447	11.386	11,355	11.521	11.172	11.006	11.008	10.012	10.814	10.406	8
9	11.801	11.734	11.663	11.282	11.203	11.414	11.318	11,512	11'104	10'985	9
20	12.132	12,020	11.981	11.896		11.708	_	11.490	11.369	11.530	20
ĭ	12,445	12.365	12.276	12.183		11.978	I	11.741		11.470	ĭ
2	12.730	12.643	13.220	12.449	1 -	12'227		11.971	11.829	11.678	2
8	12.098	12'904	12.803	12.694		12.454	12,350	12.178	12.036	11.862	8
4	13.247	13.145	13.036		12.794	12.661	12.217	12.366	12.503	12'031	4
25	13.476	13.366	13.520	13'124	12.001	12.848	12.695	12.23	12.361	12'178	25
В	13.688	13.240	13.446	13.311		13'017	12.855	12.683	12.201	12.308	6
7	13.883	13.757	13.624	13.481		13.169		12.816	12.623	12.421	7
8	14.059	13.926	13'785	13.634	13.474	13.304	13.153	12.933	12.431	12.218	8
9	14.551	14.080	13.931	13.411	13.603	13'424	13.534	13.034	12.823	12.603	9
30	14.368	14.510	14.061	13.893	13.717	13.239	13.331	13.155	12.003	12.673	3 0
1	14.200	14'343	14'178	14.003	13.817		13'414	13.198	12.970	12.733	1
2	14.618	14'454	14.581	14.092	13'904		13.486	13.565	13.024	12.782	2
3	14.724	14.22	14.375	14.180		13.768		13.312	13.04	12.822	8
4	14.817	14.639	14'451	14.52	14.042	13.826	13.298	13.390		12.855	4
35	14.900	14.714	14.219	14.314	14.100	13.875	13.640	13.396		12.881	35
6	14'972	14.779	14.278	14.366				13.425		12'901	6
7	15.034	14.835	14.628	14'410			13.702	13'449	-	12.016	7
.8	15.084	14.882	14.669	14'446	14'215	13'974	13.724	13.467		12.927	8 9
9	15.132	14.922	14.404	14.476	14.540	0,7,0	13.741	13.480	13.511	12.936	
40	15'170		14.732	14.200	14.260	14'011	13.754		13.510	12'942	40
1	15.501		14.755				13.764		13.55	12'946	1
2 3	15'227		14.773				13.771			12.949	2 3
4	15'264		14.787		14'296		13.780			12.952	4
45						-			1		
6	15.277		14.806				13.782	13.211		12.953	45 6
7	15.504			14.267			13.785	13.213		12.023	7
8	15.599		14.819			14'053	13.785	13.213	1	12,023	8
9	12.303	15.064			14'315		13.786	13.214		12.923	9
	40	41	42	43	44	45	46	47	48	49	

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VALUES OF TEMPORARY ANNUITIES OF 1

Dura-	50	51	52	53	54	55	56	57	58	59	Dura-
tion.	12.666	12:374	12:077	11 777	11.472	11.164	10.853	10.589	10.223	9.905	tion.
0	.000	.000	.000	.000	.000	,000	.000	.000	,000	.000	0
1	·947	·946	945	·944	.943	942	.940	.939	·9 3 7	.936	1
2	1.843	1.841	1.838	1.832	1.831	1.828	1.824	1.819	1.812	1.809	2
8	2.690	2.685	2.680	2.673	2.667	2.660	2.652	2.643	2.634	2.624	3
4	3.490	3.482	3'472	3.462	3.451	3.440	3'427	3'412	3.397	3.380	4
5 6	4'245	4'232	4'218	4.803 4.808	4·187 4·875	4.169	4.120	4.120	4.106	4.081	5
7	4.955 5.623	4'937 5'600	4.918 5.275	5.242	5.218	4.851 5.485	4.824 5.450	4'795 5'412	4.764 5.371	4.729 5.326	6 7
8	6.221	6.551	9.189	6.124	6.116	6.072	6.030	5.983	5.931	5.874	8
9	6.839	6.802	6.763	6.20	6.673	6.622	6.268	6.208	6.444	6.376	9
10	7:389	7:345	7:297	7'245	7.180	7.128	7.062	6.991	6.014	6.832	10
1	7.903	7.850	7.794	7.732	7.665	7.593	7.516	7.432	7:342	7'245	1
2	8.382	8.320	8.254	8.185	8.104	8.031	7.931	7.834	7.730	7.618	2
3	8.827	8.756	8.679	8.597	8.207	8.411	8.308	8.198	8.079	7.953	3
4	9.240	9.128	9.071	8.977	8.876	8.767	8.651	8.226	8.393	8.521	4
15	9.621	9.229	9.431	9.325	9.211	6.0 00	8.960	8.820	8.673	8.212	15
6	9.972	9.870	9.760	9.642	9.216	9.381	9.237	9.083	8.920	8.748	6
7	10.502	10.181	10.000	9.929	9.790	9.642	9.483	9.316	9.138	8.950	7
8 9	10,200	10'464	10.331	10.188		9.874	9.702	9.520	9.328	9.126	8
20	10.828	10'721	10.276	10.421	10.525	10.080	9.895	9. 69 9	9.492	9.276	9
1	11,101	11.191	10.496	10.811	10.420	10.501	10.065	9.985	9.633 9.752	9.403	20 1
2	11'321	11.346	11.162	10.973	10.770	10.419	10.335	10.007	9.853	9.210	2
3	11.693	11,210	11.312	11.113		10.673	10,432	10,101	9.936	9.671	3
4	11.848	11.654	11.450	11.532	11,000	10.773	10.256	10.560	10.004	9.729	4
25	11.082	11.480	11.262	11.339	11,103	10.856	10.299	10.333	10.028	9.775	25
в	12'104	11.889	11.664	11.428		10'925	10.659	10.384	10,101	9.811	6
7	12'207	11.085	11.748	11.202	11.546	10.981	10.404	10'425	10.132	9.839	7
8	12.596	12.065	11.818	11.263	11.300	11.027	10.42	10.426	10.191	9.859	8
9	12.371	12.138	11.876	11.614	1 .	11.063	10.412	10.481	10.180	9.874	9
30	12'434	12,183	11.053	11.654	11.376	11,001	10.498	10.499	10.194	9.885	30
1	12.486	12.228	11.962	11.686	11'403	11'112	10.812	10.211	10'204	9.892	1
2 3	12.228	12.264	11.002	11.711		11.158	10.836	10.23	10,311	9.897	2
4	12.202	12.312	12.033	11.730	11'438	11.140	10 830	10.232	10,310	9,001	3 4
	12.611	12.333		11.745	11.449		10.847		10,551	9,903	-
35 6	12.627	12.345	12.047	11.752	11.457	11.124	10.849	10.232	10,555	9°905	35
7	12.639	12'354	12.064	11.768	11.466	11.190	10.821	10.238	10,553	9.902	6 7
8	12.648	12.361	12.060	11.771	11.469	11,165	10.852	10.239	10'223	9.905	8
9	12.654	12.362	12'072	11.773	11'470	11.193	10.823	10.239	10.553	9.902	9
40	12.658	12.369	12.074	11.775	11'471	11'164	10.823	10.239	10.553	9.905	40
1		12.371	12'075	11.776		11'164	lo -i -	10.239	10.553	9.905	1
2		12.375				11.164		10.239		9.902	2
3	12.665		12.077		11'472			10.239	10,553	9.902	3
4		12.373				11'164		10.239	10,553	59	
45		12.373		11.777		11'164		10.239	58	50	•
6 7	12.666	12.373		11.777			10.923	57	51		
8	12.000	12.373				11'164		52		12.666	
9	12.666	12.373	12'077	11.777	4/2		ļ		12.374	12.666	52
		- 3/3	, ,	, , ,				12:077	12.374	12.666	1
								12.077	12.373	12.666	50
	50	51	52	53	54	55	56	52	51	50	

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VALUES OF TEMPORARY ANNUITIES OF 1

Dura-	- 60	61	62	63	64	65	66	67	68	69	Dura-
tion.	9.586	9.266	8.946	8.625	8.306	7.987	7.670	7:356	7.044	6.736	tion.
0	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	0
1	'934	'932	.929	'927	924		918	'914	116.	.906	1
2	1.804	1.798	1.491	1.784	1.776	1.767	1.757	1.747	1.736	1.724	2
8	2.613	2.600	2.284	2.23	2.222	2.240	2.252	2.203		2.457	3
4	3.365	3'342	3.350	3'297	3.525	3'244	3.512	3,185	3.148	3.111	4
5	4.024	4.022	3'994	3.959	3.922	3.882	3.839	3.793	3'743	3.690	5
6	4.692	4.652	4.609		4.212	4'458	4'400	4'337	4.270	4'199	6
7	5.278	5.226	5.140	5.109	5.044	4'974		4.819	4'734	4.643	7
8	5.814	5.748	5.678		5.251	5.434	5'342	5'243	5.138	5.024	8
9	6.301	6.555	6.136	6.044	5'947	5.842	5.731	5.613	5'488	5.356	9
10	6.743	6.649	6.244	6.439	6.323	6.500	6.020	5'933	5.788	5.635	10
1	7'142	7.031		6.788	6.654		6.364	6.502	6.042	5.869	1
2	7.200	7.373	7.238		6.943			6.439	6.255	6.063	2
8	7.818	7.675	7.523	7.363	7.193		6.829	6.634	6.432	6.555	3
4	8.101	7.941	7.772	7.594	7'408	7.212	7.008	6.796	6.246	6.320	4
15	8.349	8.173	7.987	7.793	7.589		7.156	6.928	6.692	6.451	15
6	8.262	8.374	8.172	7.961	7.742	7.213	7:277	7.034	6.785	6.230	6
7	8.753	8.546	8.328	8.103	7.868		7'375	7'118	6.856	6.290	7
8	8.913	8.691	8.460	8.220	7.971	7.715	7'452	7'184	6.911	6.635	8
9	9.049	8.814	8.269	8.312	8.054	7.786	7.213	7'234	6.952	6.668	9
20	9'164	8.915	8.657	8.392	8.130		7.559	7.272	6.982	6.691	20
1	9.258	8.998	8.729	8.453	8.171	7.884	7.593	7.299	7.003	6.707	1
2	9.336	9.064	8.786	8.201	8.510	7.916	7.618	7.319	7.018	6.718	2
3	9.398	9'117	8.830	8.537	8.240		7.636	7.332	7.028	6.725	3
4	9'447	9.158	8.864	8.564	8.361	7.955	7.648	7'341	7.035	6.730	4
25	9.486	9,190	8.889	8.584	8.276		7.657	7:347	7'039	6.733	25
в	9.212	9.213	8.907	8.598	8.287	7.975	7.662	7.351	7.041	6.734	в
7	9.237	9.230	8.920	8.608	8.294		7.666	7.353	7.043	6.735	7
8	9.553	9'243	8.930	8.615	8.299	7.983	7.668	7.354	7.043	6.735	8
9	9.264	9.251	8.936	8.619	8.303	7.985	7.669	7.355	7.044	6.736	9
30	9.572	9'257	8.940	8.622	8.303	7.986	7.670	7'355	7.044	6.736	30
1	9.578	9.261	8.942	8.623	8.304	7.986	7.670	7.356	7.044	6.736	1
2	9.281	9.263	8.944	8.624	8.305	7.987	7.670	7.356	7.044	6.736	2
3	9.283	9'264	8.945	8.625	8.306	7.987	7.670	7.356	7.044	6.736	3
4	9.282	9.265	8.945	8.625	8.306	7.987	7.670	7.356	7'044	69	
35	9.585	9.266	8.945	8.625	8.306	7.987	7.670	7.356	68		
6	9.286	9.266	8.945	8.625	8.306	7.987	7.670	67		40	
7	9.286	9'266	8.945	8.625	8.306	7.987	66		4I	15.310	
8	9.286	9.266	8.946	8.625	8.306	65		42	15.070		
9	9.286	9.566	8.946	8.625	64	-	43	14.824		12.310	62
40	9.286	9.266	8.946	63		44	14.572		15.070	15.310	1
1	9.286	9'266	62		45	14.316		14.824	15.069	15.310	60
2	9.286	61		46	14.054		14.24		15.069		59
	60		47	13.786	~~	14'316	14.272				8
	46	48	13.514		14.054			14.824		15.310	7
	49	13.236		13.786			14.572			15.310	6
	12.953		13.214	13.786	14.024		14.272	14.824		15.310	5
[13.236	13.214	13.786	14.054		14.572	14.824		15.309	54
53	12.953			13.786			14.572		15.068	15.300	8
2 1	12.023		13.214	13.786			14.572		15.062	15.308	2
50	12.023		13.214	13.786	14.024		14.271	14.823	15.064	15.304	1 50
=	12.953	13.536	13.214	13.786	14.023	14.312	14'571	14.822		15.305	
	49	48	47	46	45	44	43	42	41	40	

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VALUES OF TEMPORARY ANNUITIES OF 1 4 PER CENT.

								1	1		CENI.
Dura.	70	71	72	73	74	75	76	77	78	79	Dura-
tion.	6.431	6.131	5.836	5.546	5.262	4.984	4.713	4.449	4·191	3.942	tion.
0	.000	.000	.000	.000	.000	- '000	.000	.000	.000	.000	0
1	'902	.897	·892	·886	.879	.872	.865	.857	·8 ₄ 8	.839	1
2	1.411	1.697	1.681	1.664	1.647	1.627	1.606	1.284	1.229	1.233	2
3	2.432	2.402	2.372	2.344	2.310	2.274	2.532	2,193	2.149	2,101	3
4	3.071	3.052	2.981	2.932	2.879	2.823	2.762	2.698	2.630	2.228	4
5	3.632	3.241	3.202	3'435	3.361	3'282	3,199	3.111	3.018	2.021	5
6	4.155	4.041	3'954	3.862	3.766	3.663	3.226	3'443	3.322	3.203	6
7	4.246	4'443	4'335	4.531	4,101	3'974	3.843	3.406	3.262	3.418	7
8	4.000	4.782	4.654	4.212	4.375	4'225	4.071	3.911	3.748	3.280	8
8	5.512	5'071	4.919	4.760	4'595	4'424	4'249	4.068	3.884	3.698	8
10	5.475	5.309	5'135	4'955	4.770	4.579	4.384	4.182	3.984	3.782	10
1	5.689	5.203	5.309	2.110	4.006	4.697	4.485	4.521	4.026	3.840	1
2	5.864	5.629	5.447	5'231	2.010	4.786	4.229	4'332	4.102	3.879	2
3	6.002	5.783	5.222	5.323	5.088	4.850	4.613	4'374	4.138	3.902	8
4	6.112	5.879	5.637	5.393	5'145	4.896	4.649	4.403	4.160	3.921	4
15	6.504	5.923	5.698	5'442	5.182	4.928	4.673	4'421	4'173	3.930	15
в	6.540	6.008	5'743	5.478	5.513	4.920	4.689	4'433	4'182	3.936	6
7	6.320	6.048	5.775	5.203	5.532	4.964	4.400	4'440	4.186	3.939	7
8	6.356	6.077	5.797	5.219	5'244	4'972	4.706	4'444	4.189	3'941	8
9	6.382	6.096	5.812	5.230	5.52	4.978	4.709	4.446	4.190	3.941	9
20	6.400	6.110	5.822	5.232	5°257	4.081	4.411	4'447	4,191	3'942	20
1	6.413	6.118	5.828	5.241	5.259	4'982	4.415	4.448	4.191	3'942	1
2	6.420	6.154	5.832	5.544	5.561	4.983	4'713	4.448	4,191	3'942	2
8	6.425	6.127	5.834	5.242	5.262	4.984	4.713	4.448	4.191	3'942	3
4	6.428	6.159	5.835	5.246	5.565	4.984	4.413	4.448	4.191	79	
25	6.429	6.130	5.835	5.246	5.262	4.984	4.413	4'449	78	20	
6	6.430	6.131	5.836	5.246	5.262	4.984	4.413	77	31	30	
7	6.431	6.131	5.836	5.246	5.565	4.984	76	32		17:447	
8	6.431	6.131	5.836	5.246	5.565	75	33		17.253	17'447	72
	6'431	6.131	5.836	5.246	74	34		17:056	17.253	17.447	1
30	6.431	6.131	5.836	78	35		16.854	17.056	17.253	17'447	70
1 2	6.431	6.131	72	36		16.647	16.854	17.056	-	17:447	69
_	6.431 70	71	37		16.436	16.647	16.853	17.056		17.447	8
	70	38		16.220	16.436	16.647	16.853	17.056		17.447	7
	39		16.001	16.550	16.436	16.647	16.823	17.056		17'447	6
		15.776	10.001	16.530	16.436	16.647	16.823	17.056		17'447	5
	15.545	15.776	16.000	16.550		16.647	16.853	17.056		17'447	64
63	15.245	15.776	16.000	16.530		16.647	16.853	17.055	17.253	17.447	3
2	15'545	15.776		16.550		16.647	16.853	17.055	17.253	17.446	2
1	15.242	15.476	16.000	16.550	16.436	16.647	16.853	17.055	17.252	17'445	1
60	15.242	15.446	16.000	16.550		16.646	16.823	17.055	17.251	17.444	60
5 9	15.242	15.775			16.435		16.852				59
8	15.242	15.412	16.000				16.821			17.440	8
7	15°545	15.772	16.000				16.850			17.437	7
6	15.242	15.775	16.000	-		16.643		17:048		17.432	6
5	15.244	15.775	15.000	16.519		16.641	16.846	17.044	1	17.426	5
54	15.244	15.774	15.998			16.639		17.039	17.231	17.418	54
8	15.243	15.773		16.512						17.408	3
2	15.242	15.771		16.515		16.629		17.024		17:395	2
1	15.241	15.769		16.304		16.622	16.820	17.013	17.199	17:379	1
50	15.238	15.766				16.613	16.809	16.999	17.182	17.359	50
	39	38	37	36	35	34	33	32	31	30	
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VALUES OF TEMPORARY ANNUITIES OF 1

Dura-	80	81	82	83	84	85	86	87	88	89	Dura-
tion.	3.701	3.467	3.242	3.025	2.817	2.618	2.427	2.245	2.073	1.909	tion.
0	.000	.000	.000	.000	.000	.000	.000	.000	°00 0	.000	0
1	.828	817	*805	793	.779	.764	.748	.731	713		
2	1.202	1'476	1'444	1'410	1.373	1.332	1.684	1.613	1'207	1,160	2 3
3 4	2.051 2.483	1'997 2'403	1'941 2'320	2.534	2'143	1.752 2.020	1.954	1.855	1.239	1.463	4
5	2.820	2.714	2.604	2.491	2.372	2.526	2.136	2.014	1.891	1.460	5
В	3.077	2'946	2.813	2.675	2.236		2.54	2,113	1.973	1.835	.8
7	3.269	3.112	2.960	2.802	2.644	2.485	2.328	2.173	2.03 I	1.872	7
8	3.409	3.536	3.065	2.888	2.214	2.242	2.373	2.502	2.047	1.891	8
9	3.209	3.350	3.131	2.944	2.758	2.276	2.399	2.556	2.060	1,001	9
10	3.279	3.376	3.176	2.979	2.785	2.296	2.413	2.536	2.062	1.002	10
1	3.626	3.413	3.504	3.000	2.800	2.607	2'421	2'241	2.070	1.907	1
2	3.656	3'436	3.551	3.013	2.809 2.813	2.613	2.424	2.244	2.072	1.008	3
3 4	3.675 3.687	3.450	3°231	3.055	2.812	2.612 2.612	2°426 2°427	2°245 2°245	2.073	1,000	l °
15	3.693	3°458 3°463		3.024	2.816	2.617	2.427	2.542	88	89	l l
6	3.693	3.465	3°239 3°241	3'025	2.817	2.618	2.427	87		20	
7	3.699	3.466	3.545	3.022	2.817	2.918	86		21	10:160	
8	3.700	3.467	3.242	3.05	2.817	85		22	19.007	19.160	
9	3.700	3.467	3.545	3.022	84		23	18.851		19.160	82
20	3.400	3.467	3.545	88		24	18.690	18.851	19.007	19.160	1
1	3.401	3.467	82	26	25	18.524			19.007	19.160	80
2	3.401	81	27	20	18.355	18.24	18.690	18.851	19.007	10,160	79 8
	80	28		18·181	18.355	18.24	18.690	18.851	19'007	10.190	7
	29		18.004	18.181	18.322	18.234	18.690	18.821	19.007	10.190	6
	<u> </u>	17.822	18.004	18.181	18.355	18.524	18.690	18.821	19.007	19.160	5
	17.637	17.822	18.004	18.181	18.355	18.524	18.690	18.850	19.007	19.160	74
73	17.637	17.822	18.004	18.181	18.355	18.524	18.690	18.820	19.007	19.160	3
2	17.637	17.822	18.004		18.355	18.524	18.689	18.820	19.007	19.160	2
1	17.637	17'822	18.004		18.355	18.524	18.689	18.850	19.007	19.129	1
70	17.637	17.822	18.004		18.355	18.524	18.689	18.850	19.006	19.129	70
69	17.637	17.822	18.003		18.354	18.224	18.688 18.689	1 8·84 9 1 8·8 48	19.006	19.128	69
8 7	17.636	17.822	18.003	18.181 18.181	18·354 18·354	18.23 18.23	18.687	18.847	19'003	19.156	8 7
6	17.636	17.822	18.003	18.180	18.353	18.23	18.686	18.846	10.001	19.121	6
5	17.636	17.821	18.003		18.323	18.231	18.684	18.843	18.998	19'147	5
64	17.636	17.821	18.003	18'179	18.321	18.219	18.682	18.840	18.994	19'142	64
8	17.635	17.820	18.001		18.349	18.216		18.836	18.988	19.135	3
2	17.635	17.819	17.998	18.172	18.346	18.213	18.674	18.830	18.981	19'127	2
1	17.634	17.818	17.996	18.172	18.343	18.208	18.668	18.823	18.973	19.112	1
60	17.632	17.816	17.993	18.160	18.338		18.661	18.814	18.962	19.104	60
59		17.813				18'494		18.803			59
8 7	17.627	17.808	17.985			18'484 18'472	18.639	18·789 18·772		19.040	8
6	17.616		17.969			18.457	18.608		18.891	19'024	6
5	17.609		17.958			18.438	18.587	18.729	18.862	18.992	5
54	17.599		17'944	1 _ `		18.417	18.262	18.701		18.961	54
3	17.587		17.926			18.391	18.234		18.800	18.023	3
2	17.571	17.742	17.906	18.064	18.519	18.361	18.201	18.633	18.760	18.881	2
1	17.552		17.881		18.182	18.327	18.463	18.592	18.716	18.833	1
50	17.230	17.694	17.852	18.003	18.149	18.582	18.420	18.242	18.662	18.779	50
i i	29	28	27	26	25	24	23	22	21	20	

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VALUES OF TEMPORARY ANNUITIES OF 1

	90	91	92	02	04	95	96	07	98	66	
Dura- tion.				93	94		<u> </u>	97		99	Dura- tion.
	1.752	1.606	1.466	1.338	1.212	1.102	-991	-902	·814	.693	
O I	.000	.000	,000	,000	.000	,000	,000	,000	.000	.000	0
1	.672	.651	.627	.605	:577	553	521	497	'481	449	
2	1,110	1.000	1,000	'953	.896	'841	.780	•736	.696	634	2
3	1.382	1.307	1.55	1'146	1.065	.985	905	'844	785	.693	3
4	1.221	1'449	1'346	1.342	1'145	1'054	'961	.888	'814	99	l
5	1.647	1.28	1.409	1.592	1,182	1.082	.984	902	98	IO	l
6 7	1.700	1.269	1'440	1.351	1,310	1.002	.991	97	II		l
8	1.727	1,289	1.455	1.332	1,310	1'102	96	12		20.450	İ
9	1.748	1.604	1.465	1,338	94	95	13		20.340	20'450	l ⊢92
10	1'751	1.606	1.466	93		14		20.226	20'340	20.450	1
1	1.752	1.606	92		15		20.108	20.336	20.340	20.450	90
2	1.752	91		· 16		19.986	20.108	20.226	20.340	20'450	89
	90		17		19.859	19.986	20'108	20.226	20.340	20.450	8
		18		19.728	19.859	19.986	20.108	20.526	20.340	20.450	7
	19		19.593	19.728	19.859	19'986	20'108	20.536	20'340	20'450	6
		19.453	19.293	19.728	19.859	19.986	20.108	20.526	20.340	20.450	5
	19.309	19.453	19.293	19.728	19.859	19 .98 6	20.108	20.526	20'340	20.450	84
83	19.309	19.453	19.293	19.728	19.859	19.986	20.108	20.536	20.340	20'450	8
2	19.309	19.453	19.293	19.728	19.859	19.986	20.108	20.336	20.340	20'450	2
1	19.309	19.453	19.293	19.728	19.859	19.086	20,108	20.55	20'340	20'449	1
80	19.309	19.453	19.293	19.728	19.859	19.986	20.108	20.556	20.339	20.449	80
79 .	19.309	19.453	19.293	19.728	19.859	19.986	20.108	20.536	20.339	20.448	79
8	19.309	19.453	19.293	19.728	19.859	19.985	20'107	20.552	20.338	20.447	8
7	19.309	19'453	19.293	19.728	19.858	19.982	20'107	20'224	20.332	20'446	7
6	19,309	19.453	19.293	19.727	19.858	19'984	20.100	20.553	20.332	20.444	6
5	19.309	19.453	19.292	19.727	19.857	19'984	20,102	20.555	20.333	20.441	5
74	19.309	19'453	19.292	19.726	19.857	19.982	50,103	20.530	20.331	20.438	74
8	19.308	19.452	19.291	19.726	19.855	19.981	30,101	20.514	20.322	20.434	8
2	19.308	19.451	19.290	19.724		19.979	20.098	20,513	20.353	20.428	2
1 70	19:307	19'451	19.289	19.722	19.851	19.975	20.094		20.317	20.421	1
	19.306	19'449	19.587	19.720	19.848	19'972	20.000	20,303	20.310	20.413	70
69	19.305	19'447	19.584	19'717	19'844	19.966	20.083	20.192	20,301	20.403	69
8	19.303	19'444	19.281	19.712	19.839	19.960		20.186	20.591	20.391	8
6	19.300	19'441 19'436	19.576	19.707	19.832	19.952	20.066	20.172	20.279	20.377	7
5	19.291	19'430	19.263	19.200	19.813	19,042	20.022	20'162	20.304	20.361	6 5
	19.285					19.930	20.042	20'147		20.342	1
64 3	19 205	19'422	19.224	19.680	19.801	19,000	20.026	20.130	20.322	20,320	64
2	19277	19'413	19.230	19.652	19.769	19.880	19.985	50.082	20.202	20.5 08	3 2
ĺi	19.255	19.387	19.214	19.634	19,749	19.858	19.961	20.028	20.120	20.237	î
60	19.540	19.370	19'495	19.613	19.725	19.832	19,933	20.038	20.112	20,505	60
59	19.223	19.321	19'473	19.288		19.803			50.081		59
8	19'202		19'447	19.260		19.770		10.046	20'041	-	8
7	19'178	10.301		19.228		19.733		19.914	19.996		7
6	19.120	19.270	19.385	19.492	19.292	19.691	19.782		19'947	20'022	В
5	19.118	19.236		19.452	19.552	19.646	19.734	19.817	19.894	19.967	5
54	19.082	19.197		19'407	19.204	19.595	19.681	19.761		19.906	54
3	19.041	19.123		19.357		19.240				19.841	3
2	18.992	19.104		19.305	19.393	19.479	19.229	19.634		19.770	2
1	18.944	19.049	19'148	19'242	19.330	19.413	19'490	19.263	19.631	19.694	1
50	18.887	18.989	19.082	19.176	19.561	19'341	19.416	19.486	19.221	19.613	50
	19	18	17	16	15	14	13	12	II	10	
<u> </u>	-7				_5		_3				<u> </u>

BRITISH OFFICES LIFE TABLES, 1893.

WHOLE-LIFE PARTICIPATING ASSURANCES MALE LIVES.

$O^{M(5)}$

AGGREGATE DATA,

EXCLUDING THE FIRST FIVE YEARS' EXPERIENCE.

GRADUATED MORTALITY TABLE.

$$\begin{split} \log \, l_x &= \log \, k + x \, \log \, s + c^x \! \log \, g \\ \mu_x &= -\frac{d}{dx} \! \log_e l_x \! = -\log_e s - (\log_e g \, . \, \log_e c) c^x \! = \! \mathrm{A} + \mathrm{B} c^x \\ & \cot p_x \! = -\Delta \! \log_{10} l_x \! = -\log_{10} s - \log_{10} g \, (c-1) c^x \! = \! \mathrm{A}' + \mathrm{B}' c^x \\ & \text{(to base 10)} \end{split}$$

CONSTANTS.

Constant.	Value.	Common Logarithm.	Napierian Logarithm.
k	114 157.6	5.057 504 7	11.645 334 9
s	·994 128 7	ī·997 442 5	1.994 111 1
g	·998 844 9	ī·999 498 o	T-998 844 2
c	1.093 956 4	0.039 000 0	0.089 800 8
A	·005 888 9	3.770 031 3	6.865 307 3
В	.000 103 8	4 ·016 170 9	10.826 894 5
A'	°002 557 5	3.407 815 6	6 .031 274 8
B'	°000 047 2	5 ·673 601 4	10.038 099 1

Modulus of Common Logarithms= $\cdot 434.294.452 = \frac{1}{2.392.55595}$ Base of Napierian Logarithms (*)=2.715.251.525

 $O^{M(5)}$

ELEMENTARY VALUES

OM(5)

\boldsymbol{x}	l_x	d_x	p_x	q_x	μ_x	e_x	x
10 11 12 13 14	107 324 106 666 106 008 105 352 104 697	658 658 656 655 654	'993 87 '993 83 '993 81 '993 78 '993 75	006 13 006 17 006 19 006 22 006 25	'006 14 '006 17 '006 19 '006 22 '006 25	48.994 48.295 47.595 46.892 46.186	10 11 12 13 14
15 16 17 18 19	104 043 103 389 102 735 102 080 101 425	654 654 655 655	993 71 993 67 993 62 993 58 993 54	006 29 006 33 006 38 006 42 006 46	'006 29 '006 33 '006 37 '006 41 '006 46	45'476 44'763 44'048 43'331 42'610	15 16 17 18 19
20 21 22 23 24	100 770 100 113 99 453 98 792 98 128 97 461	657 660 661 664 667 672	993 48 993 41 993 35 993 28 993 20	006 52 006 59 006 65 006 72 006 80	006 51 006 57 006 64 006 71 006 78	41.888 41.162 40.435 39.706 38.975 38.242	20 21 22 23 24
25 26 27 28 29	96 789 96 113 95 432 94 744 94 050	676 681 688 694 703	993 11 993 02 992 91 992 79 992 68	000 89 006 98 007 09 007 21 007 32	000 67 006 96 007 06 007 17 007 29	36 242 37 507 36 77 1 36 034 35 296 34 555	25 26 27 28 29
31 32 33 34 35	93 347 92 636 91 916 91 184	711 720 732 744 757	992 38 992 23 992 04 991 84	007 62 007 77 007 96 008 16	007 57 007 73 007 90 008 09	33.816 33.075 32.334 31.594 30.854	31 32 33 34 35
36 37 38 39	89 683 88 912 88 124 87 318 86 493	771 788 806 825 846	991 40 991 14 990 85 990 55	008 60 008 86 009 15 009 45	008 52 008 77 009 04 009 33	30'114 29'375 28'638 27'903	36 37 38 39
41 42 43 44 45	85 647 84 778 83 883 82 961 82 010	869 895 922 9 5 1 984	989 85 989 44 989 01 988 54 988 00	'010 15 '010 56 '010 99 '011 46	*010 01 *010 40 *010 82 *011 29	26.437 25.708 24.983 24.260 23.541	41 42 43 44 45
46 47 48 49 50	81 026 80 008 78 952 77 856 76 717	1 018 1 056 1 096 1 139 1 185	987 44 986 80 986 12 985 37	012 56 013 20 013 88 014 63	°012 35 °012 95 °013 62 °014 34 °015 14	22.827 22.118 21.414 20.715 20.022	46 47 48 49
51 52 53 54	75 53 ² 74 298 73 01 ² 71 669	1 234 1 286 1 343 1 402	983 66 982 69 981 61 980 44	016 34 017 31 018 39 019 56	016 01 016 96 018 00 019 14	19°337 18°657 17°986 17°323	51 52 53 54

 $O^{\mathbf{M}(5)}$

ELEMENTARY VALUES

 $O^{\mathbf{M}(5)}$

\boldsymbol{x}	l_x	d_x	p_x	q_{x}	μ_{x}	e_x	x
55	70 267	1 464	'979 17	020 83	'020 38	16.669	
56	68 803	1 529	977 78	022 22	'021 74	16.034	55 56
.57	67 274	1 598	977 25	.023 75	'023 23	15.388	57
58	65 676	1 669	974 59	025 41	023 23	14.762	1 -
59	64 007	1 742	974 39	027 22	024 65		58
1						14'147	59
60	62 265	1819	970 79	.029 21	·o28 6o	13.243	60
61	60 446	1897	968 62	.031 38	'030 73	12.950	61
62	58 549	I 975	966 27	°033 73	.033 06	12.370	62
63	56 574	2 055	963 68	·036 32	'035 62	11.803	63
64	54 519	2 133	·96o 88	'039 12	'038 41	11.542	64
65	52 386	2 2 1 1	957 79	'042 21	'041 47	10.4	65
66	50 175	2 285	954 46	045 54	'044 81	10.176	66
67	47 890	2 355	950 82	049 18	048 47	9.662	67
68	45 535	2 421	946 83	'053 17	052 47	9.191	68
69	43 114	2 478	942 52	.057 48	056 84	8.676	69
70	40 636	1	937 81	.062 19	.061 63	8.302	
71		2 527 2 565		067 31	066 87		70
71 72	38 109		932 69	007 31	072 60	7.749	71
	35 544	2 591	927 10	072 90		7:308	72
78	32 953	2 602	921 04	.078 96	078 86	6.883	73
74	30 351	2 596	914 47	·085 53	085 72	6.473	74
75	27 755	2 572	'907 33	092 67	.093 22	6.029	75
76	25 183	2 529	899 57	100 43	101 43	5.699	76
77	22 654	2 466	.891 12	.108 82	11040	5.336	77
78	20 188	2 381	·882 o6	117 94	120 22	4.987	78
79	17 807	2 2 7 6	.872 19	12781	.130 96	4.654	. 79
80	15 531	2 151	·861 50	·138 50	142 72	4.336	80
81	13 380	2 007	·850 oo	.120 00	155 57	4.033	81
82	11 373	1 847	·837 6o	162 40	169 63	3'745	82
83	9 5 2 6	1 674	.824 27	175 73	185 02	3'471	83
84	7852	1 493	·8og 86	190 14	201 85	3,511	84
85	6 359	1 308	'794 31	205 69	220 26	2.965	85
86	5 051	1 122	794 31	205 09	240 40		86
87	3 929	943	777 07	'240 OI	262 44	2.733	87
88	2 986	773	759 99	258 87	286 54	2.214 2.308	88
89	2 213	617	741 13	23881	'312 91	2'114	-89
1				1		_	
90	1 596	480	699 25	300 75	341 76	1,031	90
91	1 116	360	677 42	322 58	373 32	1.762	91
92	756	263	652 12	'347 88	'407 84	1.601	92
93	493	183	·628 8o	371 20	445 60	1.454	93
94	310	124	.600 00	'400 00	·486 92	1.313	94
95	186	79	575 27	42473	.232 11	1.188	95
96	107	49	·542 o6	457 94	.281 26	1.062	96
97	58	28	517 24	482 76	635 64	.966	97
98	30	15 8	500 00	·500 00	·694 81	•867	98
99	15	8	·466 67	533 33	759 54	. 733	99
100	7	4	428 57	571 43	·830 35	·57 I	100
101	3	2	333 33	.666 67	907 82	.333	101
102	ĭ	I	,000 00	1,000 00	992 56	.000	102

 $O^{\mathbf{M}(5)}$

ELEMENTARY VALUES

 $O^{\mathbf{M}(5)}$

\boldsymbol{x}	$\log l_x$	$\log d_x$	$\log p_x$	$\log \mu_x$	$\operatorname{col}l_x$	$\operatorname{col}p_x$	\boldsymbol{x}
10 11 12 13 14	5.030 70 .028 03 .025 34 .022 64 .019 93	2.818 23 .818 23 .816 90 .816 24 .815 58	ī·997 33 ·997 31 ·997 30 ·997 29 ·997 28	3.788 43 .790 12 .791 96 .793 96 .796 14	6.969 30 . 971 97 . 974 66 . 977 36 . 980 07	0.002 67 .002 69 .002 70 .002 71 .002 72	10 11 12 13 14
15 16 17 18 19	'017 21 '014 47 '011 72 '008 94 '006 15	815 58 815 58 816 24 816 24 816 24	'997 26 '997 25 '997 22 '997 21 '997 18	'798 52 '801 10 '803 91 '806 96 '810 27	'982 79 '985 53 '988 28 '991 06 '993 85	'002 74 '002 75 '002 78 '002 79 '002 82	15 16 17 18 19
20 21 22 23 24	'003 33 '000 49 4'997 62 '994 72 '991 79	*817 57 *819 54 *820 20 *822 17 *824 13	'997 16 '997 13 '997 10 '997 07 '997 04	813 87 817 77 822 00 826 57 831 52	'996 67 '999 51 5'002 38 '005 28 '008 21	.002 84 .002 87 .002 90 .002 93 .002 96	20 21 22 23 24
25 26 27 28 29	988 83 985 83 982 78 979 69 976 55	*827 37 *829 95 *833 15 *837 59 *841 36	'997 oo '996 95 '996 91 '996 86 '996 81	*836 88 *842 66 *848 90 *855 62 *862 86	'011 17 '014 17 '017 22 '020 31 '023 45	'003 00 '003 05 '003 09 '003 14 '003 19	25 26 27 28 29
30 31 32 33 34	'973 36 '970 10 '966 78 '963 39 '959 92	846 96 851 87 857 33 864 51 871 57	'996 74 '996 68 '996 61 '996 53 '996 44	·870 64 ·879 00 ·887 97 ·897 56 ·907 82	026 64 029 90 033 22 036 61 040 08	003 26 003 32 003 39 003 47 003 56	30 31 32 33 34 35
35 36 37 38 39	956 36 952 71 948 96 945 99 941 10	*879 10 *887 05 *896 53 *906 34 *916 45	996 35 996 25 996 13 996 01 995 88	'918 77 '930 45 '942 87 '956 07 '970 06	.043 64 .047 29 .051 04 .054 91 .058 90 .063 02	003 65 003 75 003 87 003 99 004 12	36 37 38 39
41 42 43 44 45	930 90 932 71 928 28 923 67 918 87	927 37 '939 02 '951 82 '964 73 '978 18	995 73 '995 57 '995 39 '995 20 '995 00	934 30 2.000 52 016 99 034 35 052 54 071 62	067 29 071 72 076 33 081 13	004 43 004 61 004 80 005 00	41 42 48 44 45
46 47 48 49 50	923 67 908 62 903 13 897 36 891 29	3.007 75 .023 66 .039 81 .056 52	994 75 '994 51 '994 23 '993 93 '993 60	°091 60 °112 44 °134 15 °156 70 °180 13	091 38 096 87 102 64 108 71	005 25 005 49 005 77 006 07 006 40	46 47 48 49
51 52 58 54	·878 13 ·870 98 ·863 39 ·855 33	073 72 091 32 109 24 128 08 146 75	993 24 992 85 992 41 991 94	·204 36 ·229 43 ·255 27 ·281 90	113 11 121 87 129 02 136 61 144 67	000 70 007 15 007 59 008 06 008 58	51 52 53 54

 $O^{M(5)}$

ELEMENTARY VALUES

 $O^{M(5)}$

\boldsymbol{x}	$\log l_x$	$\log d_x$	$\log p_x$	$\log \mu_x$	$\operatorname{col}l_{x}$	$\operatorname{col}p_x$	\boldsymbol{x}
55	4.846 75	3.162 24	<u>1</u> .990 86	2.309 5	5.123 22	0.000 14	55
56	·837 61	18441	990 24	337 34	162 39	'009 76	56
57	.827 85	203 58	989 56	366 12	172 15	010 44	57
58	817 41	222 46	988 82	395 57	182 59	.01118	58
59	.806 23	241 05	·988 or	425 63	193 77	.011 99	59
60	794 24	259 83	987 13	456 32	205 76	01287	60
61	781 37	278 07	986 15	487 56	21863	.013 82	61
62	767 52	295 57	985 10	51936	.232 48	'014 90	62
63	75262	'31281	.983 93	.221 66	247 38	·016 07	63
64	.736 55	.328 99	982 67	584 46	*263 45	.017 33	64
65	719 22	'344 59	981 27	617 69	280 78	.018 73	65
66	700 49	358 89	979 75	651 37	299 51	020 25	66
67	680 24	37199	978 11	.685 44	31976	.021 89	67
68	658 35	383 99	976 27	71988	341 65	023 73	68
69	634 62	394 10	974 29	754 67	.365 38	.025 71	69
70	.608 91	402 61	972 12	.789 79	.391 09	.027 88	70
71	.281 03	'409 09	'969 74	825 21	418 97	·030 26	71
72	.550 77	413 47	967 13	.860 91	449 23	032 87	72
73	.517 90	'415 31	964 27	.896 87	'482 10	·o35 73	73
74	482 17	'414 30	961 17	933 08	.517 83	.038 83	74
75	·443 34	410 27	957 77	.969 21	.556 66	.042 23	75
76	401 11	402 95	954 03	T.006 17	.598 89	.645 97	76
77	355 14	.391 99	949 95	.042 97	·644 86	.020 02	77
78	305 09	376 76	945 50	079 98	694 91	·054 50	78
79	*25 0 59	357 17	·940 61	117 14	'749 41	·059 39	79
80	191 20	332 64	935 26	154 48	·8o8 8o	.064 74	80
81	126 46	302 55	929 42	.191 93	.873 54	.070 58	81
82	.055 88	.266 47	923 03	'229 50	'944 12	.076 97	82
83	3.978 91	.223 76	91607	'267 22	4.021 09	·083 93	83
84	[.] 894 98	174 06	·908 41	.302 03	105 02	.001 20	84
85	.803 39	.119 91	·89 9 9 9	'342 94	19661	.100 01	85
86	.703 38	.049 99	·890 90	380 93	1296 62	.100 10	86
87	·594 28	2.974 21	·880 81	.419 03	405 72	.119 19	87
88	'475 ° <u>9</u>	81 888.	.869 89	457 19	·524 91	.130 11	88
89	'344 98	·790 29	·858 o5	495 42	·655 02	141 95	89
90	203 03	681 24	·844 63	533 72	.796 97	155 37	90
91	.047 66	556 30	·830 86	.572 08	_'952 34	169 14	91
92	2.878 52	419 96	.814 33	610 49	3.121 48	185 67	92
93	69285	.262 45	.798 51	648 95	307 15	201 49	93
94	·491 36	093 42	.778 15	687 46	.508 64	.551 82	94
95	.5 69 21	1.897 63	759 87	726 00	.730 49	'240 13	95
96	.029 38	690 20	.734 oz	.764 59	970 62	.265 95	96
97	1.76343	'447 16	713 69	·803 21	2.236 57	286 31	97
98	477 12	176 09	698 97	841 87	522 88	301 03	98
99	176 09	0.003 00	.669 01	·88o 55	.823 91	.330 99	99
100	0.845 10	·602 06	.632 02	919 26	1.124 00	367 98	100
101	477 12	301 03	.522 88	958 00	.522 88	477 12	101
102	.000 00	000 000	•••	·9 96 76	0,000 00	•••	102



$O^{M(5)}$

2 PER CENT.

CONSTANTS.

Constant.	Number.	Logarithm.
<i>i</i> (1+ <i>i</i>)	'02 1'02	2·301 030 0 0·008 600 2
$(1+i)^{\frac{1}{4}}$ $(1+i)^{\frac{1}{4}}$	1.009 920 2	0.004 300 1
ช ช ¹ ั	'980 392 2 '990 147 5	1.991 399 8
v ¹ d	'995 061 6 '019 607 8	<u>1</u> .997 850 0 <u>2</u> .292 429 8
δ	·019 802 6	2.296 722 8

 $O^{M(5)}$

COMMUTATION TABLE

2 PER CENT.

\boldsymbol{x}	\mathbf{D}_{x}	N_x	S_x	\mathbf{C}_{x}	\mathbf{M}_{x}	\mathbf{R}_{x}	\boldsymbol{x}
10	88 043	2 665 453	61 738 381	529.21	35 779 ² 3	1 454 898 27	10
11	85 787	2 577 410	59 072 928	518.83	35 250 ⁰ 2	1 419 119 04	11
12	83 587	2 491 623	56 495 518	507.11	34 731 ¹ 19	1 383 869 02	12
13	81 441	2 408 036	54 003 895	496.41	34 224 ⁰ 8	1 349 137 83	13
14	79 347	2 326 595	51 595 859	485.93	33 727 ⁶ 7	1 314 913 75	14
15	77 3°5	2 247 248	49 269 264	476'40	33 241 74	1 281 186'08	15
16	75 313	2 169 943	47 022 016	467'06	32 765 34	1 247 944'34	16
17	73 369	2 094 630	44 852 073	458'60	32 298 28	1 215 179'00	17
18	71 472	2 021 261	42 757 443	449'61	31 839 68	1 182 880'72	18
19	69 621	1 949 789	40 736 182	440'80	31 390 07	1 151 041'04	19
20	67 815	1 880 168	38 786 393	433'47	30 949.27	1 119 650.97	20
21	66 052	1 812 353	36 906 225	426'91	30 515.80	1 088 701.70	21
22	64 330	1 746 301	35 093 872	419'18	30 088.89	1 058 185.90	22
23	62 650	1 681 971	33 347 571	412'82	29 669.71	1 028 097.01	23
24	61 008	1 619 321	31 665 600	406'56	29 256.89	998 427.30	24
25	59 405	1 558 313	30 046 279	401°57	28 850·33	969 170'41	25
26	57 839	1 498 908	28 487 966	396°04	28 448·76	940 320'08	26
27	56 309	1 441 069	26 989 058	391°15	28 052·72	911 871'32	27
28	54 814	1 384 760	25 547 989	387°42	27 661·57	883 818'60	28
29	53 352	1 329 946	24 163 229	383°14	27 274·15	856 157'03	29
30	51 922	1 276 594	22 833 283	380·50	26 891.01	828 882 88	30
31	50 524	1 224 672	21 556 689	377·28	26 510.51	801 991 87	31
32	49 156	1 174 148	20 332 017	374·56	26 133.23	775 481 36	32
33	47 817	1 124 992	19 157 869	373·34	25 758.67	749 348 13	33
34	46 506	1 077 175	18 032 877	372·02	25 385.33	723 589 46	34
35	45 222	1 030 669	16 955 702	371'10	25 013.31	698 204'13	35
36	43 965	985 447	15 925 033	370'55	24 642.21	673 190'82	36
37	42 732	941 482	14 939 586	371'30	24 271.66	648 548'61	37
38	41 523	898 750	13 998 104	372'33	23 900.36	624 276'95	38
39	40 336	857 227	13 099 354	373'63	23 528.03	600 376'59	39
40 41 42 43 44	39 172 38 028 36 904 35 799 34 711	816 891 777 719 739 691 702 787 666 988	12 242 127 11 425 236 10 647 517 9 907 826 9 205 039	375.63 378.28 381.96 385.77	23 154'40 22 778'77 22 400'49 22 018'53 21 632'76	576 848.56 553 694.16 . 530 915.39 508 514.90 486 496.37	40 41 42 43 44
45	33 640	632 277	8 538 051	395.72	21 242.66	464 863 61	45
46	32 585	598 637	7 905 774	401.37	20 846.94	443 620 95	46
47	31 545	566 052	7 307 137	408.18	20 445.57	422 774 01	47
48	30 518	534 507	6 741 085	415.34	20 037.39	402 328 44	48
49	29 504	503 989	6 206 578	423.17	19 622.05	382 291 05	49
50	28 503	474 485	5 702 589	431.63	19 198'88	362 669.00	50
51	27 512	445 982	5 228 104	440.66	18 767'25	343 470.12	51
52	26 532	418 470	4 782 122	450.23	18 326'59	324 702.87	52
53	25 561	391 938	4 363 652	460.96	17 876'36	306 376.28	53
54	24 599	366 377	3 971 714	471.78	17 415'40	288 499.92	54
		<u> </u>	M - D + I		<u> </u>	1	

 $N_x = D_x + D_{x+1} + \dots$ $S_x = N_x + N_{x+1} + \dots$

 $O^{M(5)}$

COMMUTATION TABLE

\boldsymbol{x}	$\mathbf{D}_{m{x}}$	N_x	S_x	\mathbf{C}_{x}	\mathbf{M}_{x}	R_x	\boldsymbol{x}
55 56	23 645°	341 778·	3 605 337 [°]	482°98 494°54	16 943.62 16 460.64	271 084·52 254 140·90	55 56
57 58	20 826. 21 759.	² 95 434'	2 945 426	506.72	15 966.10	237 680 26	57
59		273 675° 252 849°	2 649 992 [.]	530.89 518.89	15 459°38 14 940°52	221 714'16 206 254'78	58 59
60	18 977	232 951.	2 123 468	1 :	14 409.59	191 314'25	60
61		213 974	1 890 517.	555'72	13 866.06	176 904.67	61
62 63	17 152. 16 248.	195 912. 178 760.	1 676 543. 1 480 631.		13 310'34 12 743'12	163 038.61	62 63
64	15 351.	162 512.	1 301 871.	588.82	12 164'49	149 728·27 136 985·15	64
65	14 461.	147 i61°	1 139 359.		11 575.67	124 820.66	65
66	13 579.	132 700.	992 198.	606.58	10 977:29	113 244 99	66
67	12 707	119 121'	859 498	612.60	10 371.01	102 267.70	67 68
68 69	10 995. 11 845.	94 569°	740 377. 633 963.	617 [.] 42	9 758 [.] 41 9 140 [.] 99	91 896.69 82 138.58	69
70	10 160.	83 574	539 394	619.43	8 521.42	72 997 29	70
71	9 341.5	73 413.6	455 820.4	616.42	7 901 99	64 475.87	71
72	8 541.9	64 072'1	382 406.8	610,46	7 285.57	56 573.88	72
73 74	7 763.9	55 530.2	318 334.7 262 804.5	601.03 584.88	6 675°11 6 074°08	49 288.31	73 74
75	7 010 [.] 7 6 285 [.] 3	47 766·3 40 755·6	215 038.2	571.03	5.486.20	42 613·20 36 539·12	75
76	5 591'I	34 470'3	174 282.6	550.47	4 915'17	31 052.02	76
77	4 931.0	28 879.2	139 812.3	526.53	4 364.70	26 137.75	77
78	4 308.0	23 948.2	110 033.1	498.13	3 838.47	21 773.05	78
79	3 725.4	19 640.5	86 984.9	466.83	3 340 34	17 934.58	79
80 81	3 185.6	15 914.8	67 344'7	432.24	2 873·51 2 440·97	14 594°24 11 720°73	80 81
82	2 690.6 2 242.1	12 729°2 10 038°6	51 429°9 38 700°7	395 ^{.6} 7 356 [.] 99	2 045'30	9 279.76	82
83	1 841.5	7 796.2	28 662°I	317.51	1 688.31	7 234.46	83
84	1 487.9	5 955 '3	20 865.6	277.36	1 371.10	5 546.15	84
85	1 181.3	4 467.4	14 910'3	238.23	1 093.74	4 175.05	85
86 87	919.95	3 286.08 2 366.13	10 442 ·87 7 156 · 79	200'34 165'08	855°51 655°17	3 081.31 2 225.80	86 87
88	701.26 522.73	1 664.27	4 790.66	132.67	490.00	1 570.63	88
89	379.81	1 141 84	3 126.09	103.85	357.42	1 080.24	89
90	268·55	762.03	1 984.25	79.182	253.604	723.116	90
91	184'10	493'48	I 222'22	58.222	174'422	469.512	91
92 93	122°27 78°168	187.111 300.38	728 [.] 74 419 [.] 355	41.700 28.447	116 ·2 00 74 · 500	295°090 . 178°890	92 93
94	48.189	108.943	232.244	18.898	46.053	104.390	94
95	28.346	60.754	123'301	11.803	27.155	58.337	95
96	15.987	32.408	62.547	7.177 6	15.321 6	31.181 2	
97	8.495 9	16.421 0	30.130 5		8.1740	15 [.] 830 1	
98	4·308 3	7 [.] 925 1 3 [.] 616 8	13.718 2 5.793 1	2'111 9 1'104 3	4.123 9 2.041 0	3'503 2	
100	·966 2	1.204 0	2.176 3		936 7	1.462 2	
101	'406 o	538 7	671 4	.265 3	395 4	525 5	101
102	132 7	132 7	132 7		.130 1	.130 1	102

$$N_x = D_x + D_{x+1} + \dots$$

 $S_x = N_x + N_{x+1} + \dots$

 $\mathbf{O^{M(5)}}$ logarithms and co-logarithms of D_x , N_x , C_x , M_x $\mathbf{2}_{cent.}^{per}$

x	$\log \mathbf{D}_{m{x}}$	$\log N_x$	$\log \mathrm{C}_x$	$\log M_x$	$\operatorname{col}\mathbf{D}_{\boldsymbol{x}}$	$\operatorname{col} \mathbf{N}_x$	$\operatorname{col} \operatorname{C}_{x}$	$\operatorname{col}\mathbf{M}_{m{x}}$	\boldsymbol{x}
10 11 12 13 14	4'944 70 '933 42 '922 14 '910 84 '899 53	6·425 77 ·411 18 ·396 48 ·381 66 ·366 72	2.723 62 .715 02 .705 10 .695 84 .686 58	4.553 63 .547 16 .540 72 .534 33 .527 99	5.055 30 .066 58 .077 86 .089 16 .100 47	7·574 23 ·588 82 ·603 52 ·618 34 ·633 28	3·276 38 ·284 98 ·294 90 ·304 16 ·313 42	5.446 37 .452 84 .459 28 .465 67 .472 01	10 11 12 13 14
15 16 17 18 19	888 21 876 87 865 52 854 14 842 74	351 65 336 45 321 11 305 62 289 99	677 98 669 37 661 44 652 84 644 24	'521 68 '515 41 '509 18 '502 97 '496 79 '490 65	'111 79 '123 13 '134 48 '145 86 '157 26	648 35 663 55 678 89 694 38 710 01	'322 02 '330 63 '338 56 '347 16 '355 76 '363 04	'478 32 '484 59 '490 82 '497 03 '503 21	15 16 17 18 19
20 21 22 23 24 25	819 89 808 41 796 92 785 39 773 83	274 19 258 24 242 12 225 82 209 33 192 65	630 34 622 40 615 76 609 12	490 05 484 52 478 41 472 31 466 23	'180 11 '191 59 '203 08 '214 61	725 01 741 76 757 88 774 18 790 67 807 35	369 66 377 60 384 24 390 88	509 53 515 48 521 59 527 69 533 77	20 21 22 23 24 25
26 27 28 29 30	762 22 750 58 738 89 727 15 715 35	175 77 158 68 141 37 123 83	597 74 592 34 588 18 583 35	'454 06 '447 97 '441 88 '435 75 '429 61	·237 78 ·249 42 ·261 11 ·272 85 ·284 65	·824 23 ·841 32 ·858 63 ·876 17 ·893 95	'402 26 '407 66 '411 82 '416 65	545 94 552 03 558 12 564 25	26 27 28 29
31 32 33 34 34	.703 50 .691 57 .679 59 .667 51	'088 02 '069 72 '051 15 '032 29 '013 12	576 66 573 53 572 11 570 57	'423 42 '417 19 '410 92 '404 58	'296 50 '308 43 '320 41 '332 49 '344 65	911 98 930 28 948 85 967 71 986 88	'423 34 '426 47 '427 89 '429 43 '430 51	576 58 582 81 589 08 595 42 601 83	31 32 33 34 35
36 37 38 39 40	643 10 630 75 618 29 605 70	5°993 63 '973 81 '953 64 '933 10 '912 16	568 85 569 72 570 93 572 45 574 76	'391 68 '385 10 '378 40 '371 59 '364 63	'356 90 '369 25 '381 71 '394 30 '407 03	6.006 37 .026 19 .046 36 .066 90	'431 15 '430 28 '429 07 '427 55 '425 24	608 32 614 90 621 60 628 41 635 37	36 37 38 39 40
41 42 43 44 45	'580 11 '567 08 '553 87 '540 47 '526 86	.890 82 .869 05 .846 82 .824 12	577 81 582 02 586 32 591 17	357 53 350 26 342 79 335 11 327 21	'419 89 '432 92 '446 13 '459 53 '473 14	'109 18 '130 95 '153 18 '175 88	'422 19 '417 98 '413 68 '408 83 '402 61	642 47 649 74 657 21 664 89	41 42 43 44 45
46 47 48 49 50	'513 02 '498 93 '484 55 '469 88 '454 88	777 16 752 86 727 95 702 42 676 22	603 54 610 86 618 40 626 52	319 04 310 60 301 84 292 74 283 28	'486 98 '501 07 '515 45 '530 12 '545 12	222 84 247 14 272 05 297 58 323 78 350 68	396 46 389 14 381 60 373 48 364 89	.680 96 .689 40 .698 16 .707 26 .716 72 .726 60	46 47 48 49 50 51
51 52 53 54	'439 52 '423 77 '407 59 '390 92	.649 32 .621 66 .593 22 .563 93	644 11 653 43 663 67 673 74	273 40 263 08 252 28 240 93	.560 48 .576 23 .592 41 .609 08	350 08 378 34 406 78 436 07	355 69 346 57 336 33 326 26	726 66 '736 92 '747 72 '759 07	52 58 54

 $N_x = D_x + D_{x+1} + \dots$ $S_x = N_x + N_{x+1} + \dots$

 $\mathbf{O^{M(5)}}_{\text{LOGARITHMS AND CO-LOGARITHMS OF }D_x,\ N_x,\ C_x,\ M_x$ $\mathbf{2}_{\text{CENT.}}^{\text{PER}}$

\boldsymbol{x}	$\log D_x$	$\log N_x$	$\log C_x$	$\log M_x$	$\operatorname{col}\mathbf{D}_{\boldsymbol{x}}$	col N	col C _x	col M _x	x
5 5	4'373 74	5'533 74	2.683 93	4.550 01	5.626 26	6.466 26	3.316 07	5.770 99	55
56	·356 oo	.202 61	694 20	216 45	644 00	497 39	.302 80	783 55	56
57	337 64	470 46	704 77	203 20	662 36	529 54	295 23	796 80	57
5 8	'318 60	437 23	715 05	.189 19	681 40	562 77	284 95	.810.81	58 59
5 9	298 82	402 86	725 04	174 37	'701 18	597 14	274 96	.825 63	
60	278 23	'367 26	735 22	158 65	721 77	632 74	264 78	·841 35	60
61	256 76	330 36	'744 86	141 95	743 24	669 64	255 14	·858 o5	61
62	'234 31	292 06	753 76	124 19	765 69	707 94	246 24	875 81	62 63
63 64	21081	·252 27 ·210 89	762 40	105 28 085 09	789 19	747 73	237 60	·894 72	64
	186 14		'769 98	1	813 86	1	'230 02	914 91	
65	160 20	167 79	776 98	.063 55	.839 80	832 21	223 02	936 45	65
66	132 88	122 87	782 67	040 50	·867 12	·877 13	217 33	'959 50 '984 18	66 67
67 68	'104 03 '073 53	075 99	'787 18 '790 58	3.989 38	·895 97 ·926 47	973 00	209 42	4.010 62	68
69	041 21	4'975 75	790 50	3 960 99	958 79	5.024 25	207 91	.039 01	69
	· -	i				1	208 01	'0 69 49	70
70 71	006 90	·922 07 ·865 78	'791 99 '789 88	'930 51 '897 74	. 993 10 4.029 58	'077 93 '134 22	200 01	102 26	70
72	3°970 42	806 67	785 65	·862 46	·068 45	193 33	214 35	137 54	72
73	890 08	744 53	778 89	824 46	109 92	255 47	221 11	175 54	73
74	·845 76	679 12	769 29	783 48	154 24	320 88	230 71	216 52	74
75	798 33	.610 19	756 66	739 27	201 67	389 81	'243 34	.260 73	75
76	790 33	537 45	750 00	691 54	252 51	462 55	243 34	308 46	76
77	692 93	'460 59	721 18	639 95	307 07	539 41	278 82	360 05	77
78	634 28	379 27	697 35	.284 16	365 72	620 73	302 65	415 84	78
79	.571 18	293 15	.669 16	523 79	428 82	706 85	330 84	476 21	79
80	503 19	201 80	·636 o3	458 41	·496 81	798 20	363 97	541 59	80
81	429 84	104 80	597 33	387 56	570 16	895 20	402 67	612 44	81
82	350 66	001 67	552 65	310 76	·649 34	998 33	447 35	689 24	82
83	265 10	3.891.90	501 34	227 45	734 90	4.108 10	·498 66	772 55	83
84	172 57	'774 90	'443 05	137 07	·827 43	'225 10	.556 95	·862 93	84
85	.072 37	650 05	376 99	·038 91	927 63	'349 95	62301	961 09	85
86	2.963 76	.216 68	301 78	2.032 23	3.036 24	'483 32	698 22	3.067 77	86
87	.846 07	374 04	217 70	·816 35	153 93	625 96	'782 30	183 65	87
88	.718 27	'221 30	122 76	·690 28	.581 23	.778 70	'877 24	309 72	88
89	579 57	.022 61	·016 27	.223 18	'420 43	'942 39	983 73	·446 82	89
90	429 02	2.881 97	1.898 63	404 16	·570 98	3.118 03	2.101 34	'595 84	90
91	·265 o5	693 27	.762 09	241 60	734 95	306 73	234 91	758 40	91
92	'087 31	490 49	620 14	'065 21	912 69	.209 21	379 86	_ 934 79	92
93	1.893 03	272 10	454 03	1.872 16	2'106 97	727 90	545 97	2.127 84	93
94	682 95	037 20	'276 41	663 26	317 05	962 80	723 59	'336 74	94
95	452 50	1.483 24	072 01	433 85	547 50	2.516 43	927 99	.266 15	95
96	203 77	510 65	0.855 98	186 15	_'796 23 _'370 70	489 35	1'144 02	81385	96 97
97 98	0'929 21	215 40	604 34	0'912 43	1.070 79	784 60	395 66 675 33	1.087 27 381 65	98
99	'634 30 '324 67	0.899 00	'324 67 '043 07	'618 35 '309 84	·365 70 ·675 33	441 68	956 93	.690 16	99
l .			1_	I_	4	1	1	0.028 40	
100 101	1.985 08 .608 20	177 51	1.733 44	1.971 60	0'014 92	·822 49 o·268 65	0.266 26	402 96	
102	122 78	122 78	'423 81 '114 18	'597 04 '114 18	'391 50 '877 22	877 22	885 82	885 82	
	1 /0	122 /0	114 10	114 10	0// 22	0// 22	003 02	1555	

 $\mathbf{N}_x = \mathbf{D}_x + \mathbf{D}_{x+1} + \dots$ $\mathbf{S}_x = \mathbf{N}_x + \mathbf{N}_{x+1} + \dots$

 $\mathbf{O}^{\mathbf{M}(5)}$ values of a_x , A_x , P_x . logarithms of a_x , A_x , P_x $\mathbf{2}_{cent}$.

\boldsymbol{x}	a_x	A	$\mathbf{P}_{m{x}}$	$\log a_x$	$\log A_x$	$\log P_x$	\boldsymbol{x}
10	29 ² 74	'40 638	°01 342	1.481 07	7.608 93	2·127 86	10
11	29 ⁰ 44	'41 090	°01 368	.477 76	.613 74	·135 98	11
12	28 ⁸ 808	'41 551	°01 394	.474 34	.618 58	·144 24	12
13	28 ⁵ 68	'42 023	°01 421	.470 82	.623 49	·152 67	13
14	28 ³ 22	'42 507	°01 450	.467 19	.628 46	·161 27	14
15	28.070	'43 000	°01 479	463 44	633 47	'170 03	15
16	27.813	'43 505	°01 510	459 58	638 54	'178 96	16
17	27.549	'44 021	°01 542	455 59	643 66	'188 07	17
18	27.280	'44 548	°01 575	451 48	648 83	'197 35	18
19	27.005	'45 087	°01 610	447 25	654 05	'206 80	19
20	26.725	'45 637	°01 646	'442 86	659 32	'216 46	20
21	26.438	'46 199	°01 684	'438 35	664 63	'226 28	21
22	26.146	'46 774	°01 723	'433 71	670 00	'236 29	22
23	25.847	'47 358	°01 764	'428 90	675 39	'246 49	23
24	25.542	'47 956	°01 807	'423 94	680 84	'256 90	24
25	25.231	'48 565	'01 851	'418 82	'686 32	'267 50	25
26	24.915	'49 186	'01 898	'413 55	'691 84	'278 29	26
27	24.592	'49 818	'01 947	'408 10	'697 39	'289 29	27
28	24.263	'50 465	'01 998	'402 48	'702 99	'300 51	28
29	23.928	'51 121	'02 051	'396 68	'708 60	'311 92	29
30	23.587	51 792	°02 106	390 70	714 26	323 56	30
31	23.239	52 471	°02 165	384 52	719 92	335 40	31
32	22.887	53 164	°02 226	378 15	725 62	347 47	32
33	22.527	53 868	°02 290	371 56	731 33	359 77	33
34	22.162	54 585	°02 357	364 78	737 07	372 29	34
35	21'791	55 312	°02 427	357 77	742 82	385 05	35
36	21'415	56 051	°02 501	35° 53	748 58	398 05	36
37	21'032	56 800	°02 578	343 °6	754 35	411 29	37
38	20'645	57 559	°02 659	335 35	760 11	424 76	38
39	20'252	58 330	°02 745	327 4°	765 89	438 49	39
40	19.854	'59 110	'02 834	319 19	771 66	'452 47	40
41	19.451	'59 899	'02 929	310 71	777 42	'466 71	41
42	19.043	'60 699	'03 028	301 97	783 18	'481 21	42
43	18.632	'61 506	'03 133	292 95	788 92	'495 97	43
44	18.215	'62 322	'03 243	283 65	794 64	'510 99	44
45	17.795	63 147	°03 360	°274 05	·800 35	526 30	45
46	17.372	63 976	°03 482	°264 14	·806 02	541 88	46
47	16.944	64 814	°03 612	°253 93	·811 67	557 74	47
48	16.515	65 658	°03 749	°243 40	·817 29	573 89	48
49	16.082	66 506	°03 893	°232 54	·822 86	590 32	49
50	15.647	67 360	'04 046	*221 34	·828 40	.607 06	50
51	15.210	68 215	'04 208	*209 80	·833 88	.624 08	51
52	14.772	69 073	'04 379	*197 89	·839 31	.641 42	52
53	14.333	69 934	'04 561	*185 63	·844 69	.659 06	53
54	13.894	70 796	'04 753	*173 01	·850 01	.677 00	54

 $O^{M(5)}$ values of a_x , A_x , P_x . logarithms of a_x , A_x , P_x 2_{cent}

\boldsymbol{x}	a_x	$\mathbf{A}_{\boldsymbol{x}}$	\mathbf{P}_{x}	log a _x	log A.	$\log P_x$	x
EE	72'455	71 659	°04 958	1,160 00	ī·855 27	2.695 27	-
55	13.455			146 61	·860 45	71384	55
56	13.012	72 519	05 174	132 82	·865 56		56
57	12.27	73 377	.05 404		1855 50	732 74	57
58	12'141	74 232	·05 649	.118 63	.870 59	751 96	58
59	11.404	'75 084	.02 909	104 04	·875 55	771 51	59
60	11'275	.75 93 I	.06 186	·089 o3	·88o 42	'791 39	60
61	10.847	.76 770	°06 480	.073 60	885 19	811 59	61
62	10.422	.77 603	·06 794	·057 75	·88 g 88	.832 13	62
63	10'002	78 428	07 129	'041 46	·894 47	·853 oī	63
64	9.286	79 241	07 485	024 75	898 95	·874 20	64
			·o7 866				1
65	9.176	·80 048		007 59	903 35	.895 76	65
66	8.772	80 839	08 272	0.089 99	907 62	.917 63	66
67	8.375	.81 619	·08 706	.971 96	911 79	939 83	67
68	7.984	·82 385	09 170	953 47	915 85	962 38	68
69	7.601	·83 134	· o 9 6 66	' 934 54	.919 78	985 24	69
70	7.226	·83 87 I	.10 196	915 17	92361	ī·008 44	70
71	6.859	·84 590	10 764	.895 36	927 32	·031 96	71
72	6.201	85 292	11 371	.875 12	930 91	°055 79	72
73	6.125	·85 977	12 021	·854 45	934 38	079 93	73
74	5.813	·86 640	12716	·833 36	937 72	104 36	74
1		87 285		.81186		l	1 1
75	5'484		13 461	·789 96	940 94	129 08	75
76	5.162	87 912	14 259		944 05	154 09	76
77	4.857	.88 516	15 113	767 66	947 02	179 36	77
78	4.559	.89 100	16 028	744 99	949 88	204 89	78
79	4'272	·89 662	17 007	721 97	952 61	*230 64	79
80	3.996	·90 203	18 056	.698 61	955 22	·256 61	80
81	3.731	'90 724	.19 172	.674 96	957 72	.282 76	81
82	3.477	91 222	.20 375	.621 01	. 960 10	.30 9 o 9	82
83	3'234	'91 6 96	21 655	·626 8o	962 35	335 55	83
84	3.003	92 151	'23 023	·602 3 3	·964 50	362 17	84
85	2.782	92 585	·24 483	.577 68	·966 54	·388 86	85
86	2.245	92 997	26 035	552 92	968 47	415 55	86
87	2.373	93 386	27 689	·527 97	970 28	442 31	87
88	2.184	93 758	29 443	.203 03	972 01	468 98	88
89	2.006	93 730	31 302	478 04	973 61	495 57	89
1 1							
90	1.838	94 437	33 281	452 95	975 14	522 19	90
91	1.681	'94 744	°35 345	428 22	976 55	·548 33	91
92	1.230	.95 039	37 560	.403 18	.977 90	574 72	92
93	1,354	.95 308	39 816	379 07	'979 I 3	.600 06	93
94	1.591	·95 567	42 273	354 25	.080 31	·626 o6	94
95	1'143	'95 797	.44 697	.331 07	·981 35	·650 28	95
96	1.022	' 96 02 4	'47 370	·306 88	·982 38	675 50	96
97	933	'96 210	'49 777	·286 19	·983 22	·697 o3	97
98 ·	.839	'96 394	52 402	264 70	·984 05	'719 35	98
99	713	96 643	56 431	.233 65	.985 17	751 52	99
100	.558	96 944	62 243	192 43	986 52	'794 09	100
101	3327	90 944	73 399	122 85	988 54	865 69	101
102	·000	97 390	98 039	.000 00	991 40	'991 40	102
	1	90 039	90 039	1 333 33	77. 40	77.40	

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O^{M(5)}

$2^{\frac{1}{4}}$ per cent.

CONSTANTS.

Constant.	Number.	Logarithm.
i	·022 5	2.352 182 5
(i+i)	1.055 2	0.000 663 3
$(\mathbf{I}+i)^{\frac{1}{2}}$	1.011 184 4	0.004 831 2
$(1+i)^{\frac{1}{4}}$	1.002 248 3	0.002 415 8
v	'977 995 I	ī·990 336 7
$v^{\frac{1}{2}}$	·988 936 4	ī·995 168 3
$v^{\frac{1}{4}}$	'994 452 8	ī·997 584 2
ď	·022 0 04 9	2·342 519 2
δ	022 250 6	2·347 341 9

 $O^{M(5)}$

COMMUTATION TABLE

 $2^{\frac{1}{4}}_{\text{OENT.}}^{\text{PER}}$

\boldsymbol{x}	$\mathbf{D}_{m{x}}$	\mathbf{N}_x	S_x	\mathbf{C}_{x}	\mathbf{M}_{x}	R_x	x
10	85 914	2 465 807	55 356 403	515°15	31 654'11	1 247 694'51	10
11	83 508	2 379 893	52 890 596	503°81	31 138'96	1 216 040'40	11
12	81 167	2 296 385	50 510 703	491°23	30 635'15	1 184 901'44	12
13	78 890	2 215 218	48 214 318	479°68	30 143'92	1 154 266'29	13
14	76 674	2 136 328	45 999 100	468°41	29 664'24	1 124 122'37	14
15	74 518	2 059 654	43 862 772	458·10	29 195.83	1 094 458'13	15
16	72 420	1 985 136	41 803 118	448·02	28 737.73	1 065 262'30	16
17	70 379	1 912 716	39 817 982	438·83	28 289.71	1 036 524'57	17
18	68 391	1 842 337	37 905 266	429·18	27 850.88	1 008 234'86	18
19	66 457	1 773 946	36 062 929	419·73	27 421.70	980 383'98	19
20	64 575	1 707 489	34 288 983	411.75	27 001'97	952 962 28	20
21	62 742	1 642 914	32 581 494	404.53	26 590'22	925 960 31	21
22	60 957	1 580 172	30 938 580	396.23	26 185'69	899 370 09	22
23	59 220	1 519 215	29 358 408	389.27	25 789'46	873 184 40	23
24	57 527	1 459 995	27 839 193	382.42	25 400'19	847 394 94	24
25	55 879	1 402 468	26 379 198	376.81	25 017.77	821 994'75	25
26	54 273	1 346 589	24 976 730	370.72	24 640.96	796 976'98	26
27	52 708	1 292 316	23 630 141	365.24	24 270.24	772 336'02	27
28	51 182	1 239 608	22 337 825	360.87	23 905.00	748 065'78	28
29	49 695	1 188 426	21 098 217	356.01	23 544.13	724 160'78	29
30	48 246	1 138 731	19 909 791	352.69	23 188·12	700 616.65	30
31	46 831	1 090 485	18 771 060	348.85	22 835·43	677 428.53	31
32	45 452	1 043 654	17 680 575	345.50	22 486·58	654 593.10	32
33	44 106	998 202	16 636 921	343.53	22 141·08	632 106.52	33
34	42 792	954 096	15 638 719	341.47	21 797·55	609 965.44	34
35	41 509	911 304	14 684 623	339.79	21 456.08	588 167.89	35
36	40 256	869 795	13 773 319	338.46	21 116.29	566 711.81	36
37	39 032	829 539	12 903 524	338.31	20 777.83	545 595.52	37
38	37 835	790 507	12 073 985	338.43	20 439.52	524 817.69	38
39	36 664	752 672	11 283 478	338.78	20 101.09	504 378.17	39
40	35 518	716 008	10 530 806	339.76	19 762°31	484 277.08	40
41	34 397	680 490	9 814 798	341.32	19 422°55	464 514.77	41
42	33 298	646 093	9 134 308	343.80	19 081°23	445 092.22	42
43	32 222	612 795	8 488 215	346.37	18 737°43	426 010.99	43
44	31 167	580 573	7 875 420	349.41	18 391°06	407 273.56	44
45	30 131	549 406	7 294 847	353.58	18 041.65	388 882.50	45
46	29 115	519 275	6 745 441	357.74	17 688.07	370 840.85	46
47	28 116	490 160	6 226 166	362.93	17 330.33	353 152.78	47
48	27 135	462 044	5 736 006	368.39	16 967.40	335 822.45	48
49	26 169	434 909	5 273 962	374.42	16 599.01	318 855.05	49
50	25 219	408 740	4 839 053	380.97	16 224'59	302 256'04	50
51	24 283	383 521	4 430 313	387.99	15 843'62	286 031'45	51
52	23 361	359 238	4 046 792	395.44	15 455'63	270 187'83	52
53	22 451	335 877	3 687 554	403.88	15 060'19	254 732'20	53
54	21 553	313 426	3 351 677	412.35	14 656'31	239 672'01	54
لسنا			NT D T				

 $\mathbf{N}_{x} = \mathbf{D}_{x} + \mathbf{D}_{x+1} + \dots$ $\mathbf{S}_{x} = \mathbf{N}_{x} + \mathbf{N}_{x+1} + \dots$

 $O^{M(5)}$

COMMUTATION TABLE

 $2^{\frac{1}{4}}$ PER CENT.

\dot{x}	$\mathbf{D}_{m{x}}$	N_x	S_x	$\mathbf{C}_{m{x}}$	$\mathbf{M}_{m{x}}$	R_x	x
	20 667. 19 791. 18 925. 18 069.	291 873° 271 206° 251 415° 232 490°	3 038 251° 2 746 378° 2 475 172° 1 991 267°	430°13 439°65	14 243.96 13 822.85 13 392.72 12 953.07 12 503.99	225 015.70 210 771.74 196 948.89 183 556.17 170 603.10	55 56 57 58 59
60 61 62 63 64	16 385. 15 556. 14 736. 13 125.	197 199 180 814 165 258 150 522 136 596	1 776 846. 1 579 647. 1 398 833. 1 233 575. 1 083 053.	468.13	12 045.59 11 577.46 11 100.00 10 613.84	158 099'11 146 053'52 134 476'06 123 376'06	60 61 62 63 64
65 66 67 68 69	12 334. 10 029. 10 286.4	123 471' 111 137' 99 584' 88 799' 78 769'5	946 457. 822 986. 711 849. 612 265. 523 466.0	509°11 514°57 518°66 521°46 522°00		102 643'10 93 026'18 83 918'37 75 325'13 67 250'55	65 66 67 68 69
70 71 72 73 74	8 560'1 7 851'1 7 161'6 6 493'4 5 849'1	69 483°1 60 923°0 53 071°9 45 910°3 39 416°9	444 696.5 375 213.4 314 290.4 261 218.5 215 308.2	520.61 516.81 510.56 501.44 489.28	7 031'12 6 510'51 5 993'70 5 483'14 4 981'70	59 697.43 52 666.31 46 155.80 40 162.10 34 678.96	70 71 72 73 74
75 76 77 78 79	5 231'1 4 641'9 4 083'8 3 559'2 3 070'4	33 567.8 28 336.7 23 694.8 19 611.0 16 051.8	175 891.3 142 323.5	474.09 455.90 434.76 410.54 383.80	4 492'42 4 018'33 3 562'43 3 127'67 2 717'13	29 697 26 25 204 84 21 186 51 17 624 08 14 496 41	75 76 77 78 79
80 81 82 83 84	2 619.0 2 206.6 1 834.4 1 502.6	12 981'4 10 362'4 8 155'8 6 321'4 4 818'8	54 629 [.] 2 41 647 [.] 8 31 285 [.] 4 23 129 [.] 6 16 808 [.] 2	354.74 323.71 291.35 258.25 225.26	2 333'33 1 978'59 1 654'88 1 363'53 1 105'28	11 779 28 9 445 95 7 467 36 5 812 48 4 448 95	80 81 82 83 84
85 86 87 88 89	959'42' 745'30' 566'99' 421'42' 305'45	3 607.52 2 648.10 1 902.80 1 335.81 914.39	11 989.38	193.00 193.00 190.69	880.02 687.02 525.11 392.02 285.333	3 343.67 2 463.65 1 776.63 1 251.52 859.501	85 86 87 88 89
90 91 92 93 94	215'44 147'33 97'611 62'253 38'283	608'94 393'50 246'175 148'564 86'311	1 580.76 971.82 578.323 332.148 183.584	63.369 46.481 33.210 22.600 14.976	202'044 138'675 92'194 58'984 36'384	574 168 372 124 233 449 141 255 82 271	90 91 92 93 94
95 96 97 98 99	22'465 12'639 6'700 2 3'389 3 1'657 4	48.028 25.563 12.923 7 6.223 5	97 ² 73 49 ² 45 23 ⁶ 82 0 10 ⁷ 58 3	9°331 4 5°660 5 3°163 4 1°657 4	21.407 7 12.076 3 6.415 8 3.252 4	45.886 6 24.478 9 12.402 6 5.986 8	95 96 97 98
100 101 102	756 4 317 c	1·176 8 ·420 4 ·103 4	1.700 6 523 8	'422 7 '206 7	73° 5 3°°7 8	1°139 4 °408 9	100 101

 $N_x = D_x + D_{x+1} + \dots$ $S_x = N_x + N_{x+1} + \dots$

 $\mathbf{O}^{\mathbf{M}(5)}$ logarithms and co-logarithms of D_x , N_x , C_x , M_x $2\frac{1}{4}$ cent.

x	$\log D_x$	$\log N_x$	$\log \mathrm{C}_x$	$\log M_x$	$\operatorname{col}\mathbf{D}_{\pmb{x}}$	$col N_x$	$\operatorname{col} \mathrm{C}_x$	$\operatorname{col}\mathbf{M}_x$	x
10 11 12 13 14	4'934 06 '921 73 '909 38 '897 02 '884 65	6·391 96 ·376 56 ·361 05 ·345 41 ·329 67	2.711 93 .702 27 .691 28 .680 95	4.500 43 .493 30 .486 22 .479 20 .472 23	5.065 94 .078 27 .090 62 .102 98	7.608 04 .623 44 .638 95 .654 59 .670 33	3·288 07 ·297 73 ·308 72 ·319 05 ·329 37	5·499 57 ·506 70 ·513 78 ·520 80 ·527 77	10 11 12 13 14
15 16 17 18 19	·872 26 ·859 86 ·847 44 ·835 00 ·822 54	'313 79 '297 79 '281 65 '265 37 '248 94	660 96 651 30 642 30 632 64 622 98	'465 32 '458 45 '451 63 '444 84 '438 09	127 74 140 14 152 56 165 00 177 46	'686 21 '702 21 '718 35 '734 63 '751 06	'339 04 '348 70 '357 70 '367 36 '377 02	534 68 541 55 548 37 555 16 561 91	15 16 17 18 19
20 21 22 23 24	'810 07 '797 56 '785 02 '772 47 '759 87	232 36 215 61 198 70 181 62 164 35	614 64 606 95 597 95 590 25 582 54 576 12	'431 40 '424 72 '418 06 '411 44 '404 84 '398 25	189 93 202 44 214 98 227 53 240 13	767 64 784 39 801 30 818 38 835 65	385 36 393 05 402 05 409 75 417 46 423 88	568 60 575 28 581 94 588 56 595 16	20 21 22 23 24
25 26 27 28 29 30	747 25 734 58 721 87 709 12 696 32	140 89 129 24 111 37 1093 28 1074 97	.569 04 .562 57 .557 35 .551 46	398 25 391 66 385 07 378 49 371 88	252 75 265 42 278 13 290 88 303 68	'853 11 '870 76 '888 63 '906 72 '925 03	'430 96 '437 43 '442 65 '448 54	601 75 608 34 614 93 621 51 628 12	25 26 27 28 29
31 32 33 34 35	670 54 657 55 644 50 631 37	*037 62 *018 56 5*999 22 *979 59	547 39 542 64 538 44 535 96 533 36	'358 61 '351 92 '345 20 '338 41	310 54 329 46 342 45 355 50 368 63 381 86	943 58 962 38 981 44 6.000 78 020 41	'452 61 '457 36 '461 56 '464 04 '466 64 '468 78	634 73 641 39 648 08 654 80 661 59	30 31 32 33 34
36 37 38 39 40	.604 83 .591 42 .577 89 .564 23	939 42 918 84 897 91 876 61	531 22 529 51 529 32 529 47 529 92 531 17	331 55 324 62 317 60 310 47 303 22 295 84	395 17 408 58 422 11 435 77	'040 34 '060 58 '081 16 '102 09 '123 39 '145 08	470 49 470 68 470 53 470 08	675 38 682 40 689 53 696 78	35 36 37 38 39 40
41 42 43 44 45	'536 52 '522 42 '508 15 '493 69	-832 82 -810 30 -787 32 -763 86 -739 89	533 16 536 30 539 55 543 33	288 31 280 61 272 71 264 61	449 55 463 48 477 58 491 85 506 31 520 98	145 00 167 18 189 70 212 68 236 14	466 84 463 70 460 45 456 67	704 16 711 69 719 39 727 29 735 39	41 42 43 44 45
46 47 48 49 50	.464 11 .448 96 .433 52 .417 79	739 69 715 40 690 34 664 68 638 40	553 57 559 82 566 31 573 36	230 27 247 68 238 81 229 62 220 08	535 89 551 04 566 48 582 21	284 60 309 66 335 32 361 60	431 52 ·446 43 ·440 18 ·433 69 ·426 64	743 73 752 32 761 19 770 38 779 92 789 83	46 47 48 49 50
51 52 53 54	385 30 368 48 351 24 333 51	.583 79 .555 38 .526 18 .496 14	588 82 597 99 606 26 615 27	199 85 189 09 177 83 166 03	614 70 631 52 648 76 666 49	300 55 '416 21 '444 62 '473 82 '503 86	'411 18 '402 91 '393 74 '384 73	·800 15 ·810 91 ·822 17 ·833 97	51 52 53 54

 $N_x = D_x + D_{x+1} + \dots$ $S_x = N_x + N_{x+1} + \dots$

 $\mathbf{OM}(5)$ logarithms and co-logarithms of D_x , N_x , C_x , M_x $\mathbf{2}^{\frac{1}{4}}_{0 \text{ ent.}}$

<u> </u>			1			I	1	1	
\boldsymbol{x}	$\log D_x$	$\log N_x$	$\log \mathbf{C}_{x}$	$\log M_x$	$\operatorname{col}\mathbf{D}_{x}$	$\operatorname{col} \mathbf{N}_x$	$\operatorname{col} \mathbf{C}_{x}$	$\operatorname{col} \mathbf{M}_x$	x
55	4.312 27	5'465 19	2.624 40	4'153 63	5.684 73	6.234 81	3.375 60	5.846 37	55
56	296 46	433 30	633 60	140 59	703 54	566 70	366 40	859 41	56
57	277 04	400 39	643 10	126 87	722 96	'599 61	356 90	873 13	57
58	256 93	366 40	652 32	112 37	.743 07	633 60	347 68	887 63	58
59	236 09	331 27	661 25	·097 05	763 91	.668 73	338 75	902 95	59
60	214 45	294 90	.670 37	·o8o 83	785 55	705 10	329 63	919 17	60
61	10101	257 23	678 94	.063 61	.808 09	742 77	321 06	936 39	61
62	168 39	218 16	.686 78	045 32	.831 61	781 84	313 22	954 68	62
63	143 83	177 60	694 36	025 87	·856 17	822 40	305 64	974 13	63
64	.118 10	135 44	700 88	'005 14	·881 90	864 56	299 12	994 86	64
65	.001 10	'091 56	.706 81	3.983 04	.908 90	908 44	293 19	4 .016 96	65
66	'062 71	'045 86	711 44	'959 41	937 29	954 14	288 56	040 59	66
67		4.998 19	714 89	934 16		5.001.81	285 11	065 84	67
68	'001 24	'948 41	717 23	'907 12	.998 76	.021 20	282 77	092 88	68
69	3.967 85	896 36	717 67	.878 13	4.032 15	103 64	282 33	121 87	69
70	932 48	·841 88	.716 51	·847 0 2	·067 52	158 12	*283 49	152 98	70
71	894 93	.784 78	713 33	81361	105 07	215 22	286 67	186 39	71
72	·855 oī	724 87	.708 05	777 70	144 99	'275 13	291 95	22230	72
73	81247	.661 91	'700 22	739 03	187 53	·338 o9	299 78	260 97	73
74	.767 09	.595 68	·689 5 6	·697 38	.535 91	°404 32	'310 44	·302 62	74
75	.718 59	.525 92	.675 86	652 48	·281 41	·474 o8	*324 14	347 52	75
76	.666 70	452 35	658 87	604 05	333 30	547 65	'341 13	395 95	76
77	611 07	374 65	638 25	551 75	'388 93	625 35	'361 75	448 25	77
78	.221 32	*292 50	'613 36	495 22	448 65	.707 50	386 64	.504 78	78
79	'487 19	*205 52	.284 11	'434 11	.51281	794 48	415 89	.265 89	79
80	418 13	113 32	'549 91	·367 98	·581 87	·886 68	450 09	632 02	80
81	'343 73	.015 46	.210 16	296 36	656 27	984 54	'489 84	'703 64	81
82	263 48	3.911 47	'464 41	'218 77	.736 52	4·088 53	535 59	.781 23	82
83	176 86	.800 81	412 04	134 66	·823 14	.199 19	587 96	·865 34	83
84	·083 26	·682 94	352 68	·043 47	·916 74	'317 06	647 32	'956 53	84
85	2.082 01	'557 21	·285 56	2.944 49	3.017 99	'442 79	714 44	3.022 21	85
86	.872 33	422 93	*209 28	.836 97	127 67	·577 º7	790 72	.163 03	86
87	753 57	279 39	124 14	720 25	'246 43	720 61	.875 86	279 75	87
88	624 72	125 74	028 14	593 31	375 28	·874 26	971 86	406 69	88
89	·484 95	2.961 13	1.920 59	455 35	.212 02	3.038 84	2.079 41	.244 65	89
90	333 33	.784 57	.801 88	305 45	666 67	215 43	198 12	694 55	90
91	168 30	594 94	.667 28	142 00	.831 70	405 06	332 72	·858 oo	91
92	1.089 20	391 24	521 27	1.964 70	2.010 20	608 76	'478 73	2.032 30	92
93 94	'794 16 '583 01	1.936 04	354 10	'770 73 '560 91	'205 84 '416 99	-828 o9 2.063 93	·645 90 ·824 59	'229 27 '439 09	93 94
1			175 41	1 -		1	l		
95	351 50	681 49	0.969 95	330 57	·648 50	318 51	1.030 02	1669 43	95
96	101 71	'407 61	752 85	081 93	.898 29	.888 61	247 15	918 07	96 97
97 98	0.826 09	0.794 03	'500 15 '219 42	0.807 25	1°173 91 °469 88	1.502 01	'499 85 '780 58	1'192 75	98
99	219 42	452 43	1.936 42	202 76	·780 58	547 57	0.063 54	797 24	99
100	ī·878 77	070 70	1	1.863 65	0.151,53	I	i	0.136 38	
101	501 13	1.623 66	315 37	488 27	498 87	'929 30 0'376 34	'373 93 '684 63		101
102	014 34	'014 34	004 68	004 68	985 66	985 66	995 32	995 32	
	7-434	4 34	1 554 55	554 55	903 00	903 00	973 32	773 34	

 $\mathbf{N}_x = \mathbf{D}_x + \mathbf{D}_{x+1} + \dots$ $\mathbf{S}_x = \mathbf{N}_x + \mathbf{N}_{x+1} + \dots$

 $\mathbf{O}^{\mathbf{M}(5)}$ values of a_x , A_x , P_x . logarithms of a_x , A_x , P_x $\mathbf{2}^{\frac{1}{4}}_{\mathbf{CENT}}$.

\boldsymbol{x}	a_x	$\mathbf{A}_{m{x}}$	P_x	$\log a_x$	$\log \mathbf{A}_x$	$\log P_x$	\boldsymbol{x}
10	27'701	'36 844	'01 284	1'457 90	7:566 37	2·108 47	10
11	27'499	'37 288	'01 308	'454 83	:571 57	·116 74	11
12	27'292	'37 743	'01 334	'451 67	:576 84	·125 17	12
13	27'080	'38 210	'01 361	'448 39	:582 18	·133 79	13
14 15 16	26.862 26.640 26.411	38 688 39 180 39 682	'01 389 '01 418 '01 448	'445 02 '441 53 '437 93	·587 58 ·593 06 ·598 59	133 79 142 56 151 53 160 66	14 15
17 18 19	26.178 25.938 25.693	'40 197 '40 723 '41 262	01 479 01 512 01 546	'434 21 '430 37 '426 40	604 19 609 84 615 55	160 00 169 98 179 47 189 15	16 17 18 19
20	25'441	'41 815	°01 581	'422 29	·621 33	'199 04	20
21	25'185	'42 380	°01 618	'418 05	·627 16	'209 11	21
22	24'923	'42 958	°01 657	'413 68	·633 04	'219 36	22
23	24'654	'43 548	°01 698	'409 15	·638 97	'229 82	23
24	24'379	'44 154	°01 740	'404 48	·644 97	'240 49	24
25	24.099	'44 771	*01 784	'399 64	.651 00	°251 36	25
26	23.812	'45 403	*01 830	'394 66	.657 08	°262 42	26
27	23.519	'46 047	*01 878	'389 50	.663 20	°273 70	27
28	23.219	'46 706	*01 928	'384 16	.669 37	°285 21	28
30 31 32 33	22.603 22.285 21.962 21.632	47 376 48 063 48 761 49 473 50 200	°01 981 °02 036 °02 094 °02 155 °02 218	378 65 372 96 367 08 361 01 354 72	·675 56 ·681 81 ·688 07 ·694 37 ·700 70	'396 91 '308 85 '320 99 '333 36 '345 98	30 31 32 33
34	21.296	50 938	°02 285	348 22	707 04	358 82	34
35	20.955	51 690	°02 354	341 52	713 41	371 89	35
36	20.607	52 455	°02 428	334 59	719 79	385 20	36
37	20.253	53 233	°02 505	327 42	726 18	398 76	37
38	19.894	54 023	°02 586	320 02	732 58	412 56	38
39	19°529	54 826	°02 671	'312 38	738 99	'426 61	39
40	19°159	55 640	°02 760	'304 47	745 39	'440 92	40
41	18°784	56 466	°02 854	'296 30	751 79	'455 49	41
42	18°403	57 305	°02 953	'287 88	758 19	'470 31	42
43	18.018	.58 151	°03 058	'279 17	764 56	'485 39	43
44	17.628	.59 009	°03 168	'270 17	770 92	'500 75	44
45	17.234	.59 876	°03 284	'260 87	777 25	'516 38	45
46	16.836	.60 753	°03 406	'251 29	783 57	'532 28	46
47	16.433	·61 638	·03 536	'241 38	.789 85	548 47	47
48	16.028	·62 532	·03 672	'231 16	.796 10	564 94	48
49	15.619	·63 429	·03 817	'220 61	.802 29	581 68	49
50	15'208	.64 334	°03 969	*209 72	.808 44	'598 72	50
51	14'794	.65 245	°04 131	*198 49	.814 55	'616 06	51
52	14'378	.66 162	°04 302	*186 90	.820 61	'633 71	52
53	13'960	.67 080	°04 484	*174 94	.826 59	'651 65	53
54	13'542	.68 002	°04 676	*162 63	.832 52	'669 89	54
	-			l			

OM(5) VALUES OF a_x , A_x , P_x . LOGARITHMS OF a_x , A_x , P_x $2\frac{1}{4}$ PER CENT.

\boldsymbol{x}	a_x	\mathbf{A}_{x}	P_x	$\log a_x$	$\log A_x$	$\log P_x$	\boldsymbol{x}
55 56	13'123	·68 922 ·69 844	°04 880 °05 097	1'149 9 2 '136 84	7.838 36 .844 13	707 29	55 56
57 58	12.285 11.867	.70 767 .71 687	°05 327 °05 571	123 35 109 47	·849 83 ·855 44	726 48 745 97	57 58
59 60	11.420	'72 604	.05 832 .06 108	°095 18 °080 45	·86o 96	.765 78	59
61	11.032	.73 516 .74 422	·06 403	·065 32	·866 38 ·871 70	.785 93 .806 38	60 61
62 63	9.809 9.809	.75 323 .76 215	.06 717 .07 021	.049 77 .033 77	·876 93 ·882 04	'827 16 '848 27	62 63
64 65	9.407	·77 0 97	.07 408	017 34	887 04	·869 7 o	64
66	8.91d 9.011	.77 972 .78 832	.07 789 .08 195	.000 46 0.983 15	·891 94 ·896 70	.891 48 .913 55	65 66
67 68	8·234 7·854	.79 682 .80 516	.08 629 .09 093	'965 39 '947 17	'901 36 '905 88	'935 97 '958 71	67 68
69	7.482	·81 335	.09 289	928 51	910 28	930 77	69
70 71	7°117 6°760	·82 137 ·82 924	.10 68 6	'909 40 '889 85	'914 54 '918 68	1.002 14 .028 83	70 71
72 73	6.411	·83 69 3	11 294	·86 ₉ 86	922 69	.052 83	72
74	6·070 5·739	·84 442 ·85 171	11 943 12 639	·849 44 ·828 59	'926 56 '930 29	'077 12 '101 70	73 74
75 76	5.417 2.102	·85 880 ·86 567	13 383 14 181	·807 33 ·785 65	933 89	126 56	75
77	4.802	.87 233	15 035	·763 58	937 35 940 68	151 70 177 10	76 77
78 79	4.210 4.228	·87 876 ·88 495	°15 949 °16 927	'741 15 '718 33	'943 87 '946 92	°202 72	78 79
80 81	3.957	·89 o94	17 975	695 19	949 85	·254 66	80
82	3.696 3.446	·89 666 ·90 217	19 094 20 291	·671 73 ·647 99	'952 63 '955 29	'280 90 '307 30	81 82
83 84	3°207 2°978	'90 740 '91 245	°21 570	·623 95 ·599 68	'957 80 '960 21	333 85 360 53	83 84
85	2.760	91 723	'24 394	575 20	962 48	387 28	85
86 87	2·553 2·356	·92 181 ·92 615	°25 944 °27 597	·550 60 ·525 82	'964 64 '966 68	'414 04 '440 86	86 87
88 89	2.140	93 023	29 347	501 02	·968 59	.467 57	88
90	1.994	'93 411 '93 782	'31 205 '33 180	'476 18 '451 24	'970 40 '972 12	'494 22 '520 88	89 90
91 92	1.671 1.22	'94 124	35 242	426 64	.973 70	·547 o6	91
93	1.386	°94 45° °94 748	'37 45 ¹ '39 703	'401 74 '377 75	'975 20 '976 57	·573 46 ·598 82	92 93
94 95	1.138	.02 039	'42 I54	353 06 329 99	'977 9° '979 07	.624 84 .640 08	94 95
96	1.033	'95 295 '95 548	'44 574 '47 241	.302 90	980 22	.649 08 .674 32	96
97 98	·929 ·836	'95 755 '95 958	'49 643 '52 260	·285 30 ·263 91	'981 16 '982 08	.695 86 .718 17	97 98
99	710	·96 237	.26 277	.533 01	'983 34	750 33	99
100 101	·556 ·326	'96 572 '97 082	.62 075 .73 217	191 93 122 53	'984 85 '987 14	.792 92 .864 61	100 101
102	.000	97 800	97 800	.000 00	990 34	990 34	102

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O^{M(5)}

$2^{\frac{1}{2}}$ per cent.

CONSTANTS.

Constant.	Number.	Logarithm.
i $(1+i)$	'025 1'025	2·397 940 0 0·010 723 9
$(1+i)^{\frac{1}{2}}$	1'012 422 8	0.002 391 9
$(1+i)^{\frac{1}{4}}$	1.006 192 3 .975 609 8	0.002 681 0 1.089 546 1
ช ^น ์ ช ^น ์	·987 729 6 ·993 845 9	ī·994 638 1 ī·997 319 0
đ δ	°024 390 2 °024 692 6	2·387 216 1 2·392 567 0
, o	024 092 0	2 392 507 0

WHOLE-LIFE PARTICIPATING ASSURANCES

COMMUTATION TABLE

MALE LIVES

OM(5)

z	D _z	N,	Sz	C.	Мг	R_{α}	\boldsymbol{x}
10 11 12	83 841 81 295	2 2 ³ 5 453 2 201 612	49 734 881 47 449 428	501'49 489'25	28 063-51 27 557-12	1 072 426 35 1 244 307 74 1 216 710 62	10 11 12
13 14 15	78 823 76 424 74 %7 71 838	2 120 317 2 041 494 1 965 070	45 247 816 43 127 499 41 086 005	475 38 453 36 451 36	27 10756 26 631'93 26 168'42 · 25 716'86	989 602 76 962 970 78 936 802 36	13 14 15
16 17 18	69 645 67 517 65 450	1 890 973 1 819 135 1 749 490 1 681 973	39 120 935 37 229 962 35 410 827 33 661 337	440°55 429°31 419°96 409°72	24 846-21 24 846-31	911 085'50 885 809'19 860 962'69	16 17 18
19 20 21	63 444 61 497 59 606	1 616 523 1 553 079 1 491 582	31 979 364 30 362 841 28 809 762	399 [.] 73 391 [.] 17 383 [.] 37	24 016 82 23 617 09 23 225 92	836 536 15 812 519 33 788 902 24	19 20 21
22 23 24	57 769 55 985 54 253	1 431 976 1 374 207 1 318 222	27 318 180 25 886 204 24 511 997	374'59 367'11 359'77	22 842 55 22 467 96 22 100 85	765 676 32 742 833 77 720 365 81	22 23 24 25
25 26 27 28 29	52 570 50 934 49 344 47 800 46 298	1 263 969 1 211 399 1 160 465 1 111 121 1 063 321	23 193 775 21 929 806 20 718 407 19 557 942 18 446 821	353.63 347.06 341.10 336.20 330.86	21 741 08 21 387 45 21 040 39 20 699 29 20 363 09	698 264 96 676 523 88 655 136 43 634 096 04 613 396 75	26 27 28 28 29
30 31 32	44 838 43 417 42 036	1 017 023 972 185 928 768	17 383 500 16 366 477 15 394 292	326·98 322·63 318·75	20 032 ⁻ 23 19 705 ⁻ 25 19 382 ⁻ 62	593 033 66 573 001 43 553 296 18	30 31 32 33
33 34 35 36	40 691 39 383 38 109 36 868	886 732 846 041 806 658 768 549	14 465 524 13 578 792 12 732 751 11 926 093	311.50 313.20 319.12	19 063.87 18 747.72 18 434.22 18 123.02	533 913.56 514 849.69 496 101.97 477 667.75	34 35 36
37 38 39	35 660 34 482 33 333	731 681 696 021 661 539	11 157 544 10 425 863 9 729 842	307.56 304.33	17 813.80 17 505.47 17 197.79	459 544 73 441 730 93 424 225 46	37 38 39
40 41 42 43 44	32 213 31 119 30 053 29 010 27 991	628 206 595 993 564 874 534 821 505 811	9 068 303 8 440 097 7 844 104 7 279 230 6 744 409	307·39 308·05 309·53 311·09 313·04	16 890·53 16 583·14 16 275·09 15 965·56 15 654·47	407 027 67 390 137 14 373 554 00 357 278 91 341 313 35	40 41 42 43 44
45 46 47 48	26 996 26 021 25 068 24 133	477 820 450 824 424 803 399 735	6 238 598 5 760 778 5 309 954 4 885 151	316.01 318.95 322.79 326.84	15 341 43 15 025 42 14 706 47 14 383 68	325 658·88 310 317·45 295 292·03 280 585·56	45 46 47 48
50 51	23 218 22 320 21 439	375 602 352 384 330 064	4 485 416 4 109 814 3 757 430	331·38 336·36 341·72	14 056·84 13 725·46 13 389·10	266 201.88 252 145.04 238 419.58	49 50 51
52 53 54	20 575 19 726 18 890	308 625 288 050 268 324	3 427 366 3 118 741 2 830 691	347 ⁻ 44 353 ⁻ 99 360 ⁻ 53	13 047 38 12 699 94 12 345 95	225 030.48 211 983.10 199 283.16	52 53 54

 $\mathbf{N}_x = \mathbf{D}_x + \mathbf{D}_{x+1} + \dots$

 $S_x = N_x + N_{x+1} + \dots$

 $O^{M(5)}$

COMMUTATION TABLE

 $2^{\frac{1}{2}}_{\bar{2}}^{\text{ PER}}_{\text{ CENT.}}$

x	$\mathbf{D}_{\boldsymbol{x}}$	N_x	S_x	\mathbf{C}_{x}	$\mathbf{M}_{m{x}}$	R_x	x
56 57 58	18 069' 17 261' 18 466'	249 434° 231 365° 214 104° 197 638°	2 562 367. 2 312 933. 2 081 568. 1 867 464.	374°24 381°59 388°82	11 985.42 11 243.89 10 862.30	186 937'21 174 951'79 163 333'66 152 089'77	55 56 57 58
63	14 911' 14 152' 13 403'	181 955. 167 044. 152 892. 139 489. 126 823.	1 669 826. 1 487 871. 1 320 827. 1 167 935. 1 028 446.	395 ⁹ 3 403 ³ 5 410 ³ 8 416 ⁸ 3 423 ¹ 4	10 473.48 10 077.55 9 674.20 9 263.82 8 846.99	141 227'47 130 753'99 120 676'44 111 002'24 101 738'42	59 60 61 62 63 64
64 65 66 67 68 69	10 524. 9 833.6 9 156.8 8 494.2	114 883° 103 657° 93 133°1 83 299°5 74 142°7	901 623° 786 740° 683 083°1 589 950°0 506 650°5	428'49 433'32 436'91 439'31 440'60	8 423.85 7 995.36 7 562.04 7 125.13 6 685.82	92 891'43 84 467'58 76 472'22 68 910'18 61 785'05	65 66 67 68 69
70 71 72 73 74	7 846.4 7 215.1 6 601.4 6 006.9 5 433.2 4 882.1	65 648·5 57 802·1 50 587·0 43 985·6 37 978·7 32 545·5	366 859·3 309 057·2 258 470·2	439 [.] 98 437 [.] 73 433 [.] 48 427 [.] 19 418 [.] 54 4 [.] 7 [.] 39	5 805.24 5 805.24 5 367.51 4 934.03 4 506.84 4 088.30	55 099 23 48 854 01 43 048 77 37 681 26 32 747 23 28 240 39	70 71 72 73 74
75 76 77 78 79	4 355.6 3 855.6 3 383.8 2 941.9 2 531.7	27 663.4 23 307.8 19 452.2 16 068.4 13 126.5	143 960'4 116 297'0 92 989'2 73 537'0	393.78 377.76 359.36 338.51 315.69	3 680·91 3 287·13 2 909·37 2 550·01	24 152.09 20 471.18 17 184.05 14 274.68 11 724.67	75 76 77 78 79
80 81 82 83 84	2 154.2 1 810.6 1 501.5 1 227.0 986.69	10 594.8 8 440.6 6 630.0 5 128.5 3 901.51	44 342'I 33 747'3	291.08 264.97 237.90 210.35 183.03	1 895.81 1 604.73 1 339.76 1 101.86 891.51	9 513'17 7 617'36 6 012'63 4 672'87 3 571'01	80 81 82 83 84
85 86 87 88 89	779.58 604.13 458.47 339.93 245.79	2 914 ⁸ 2 2 135 ² 4 1 531 ¹ 1 1 072 ⁶ 4 732 ⁷ 1	9 646·65 6 731·83	156.44 130.92 107.35 85.853 66.856	708·48 552·04 421·12 313·770 227·917	2 679'50 1 971'02 1 418'98 997'862 684'092	85 86 87 88 89
90 91 92 93 94	172'94 117'98 77'970 49'606 30'431	486·92 313·98 195·996 118·026 68·420	1 260 13 773 21 459 225 263 229 145 203	50°742 37°129 26°463 17°964 11°876	161'061 110'319 73'190 46'727 28'763	456 [·] 175 295 [·] 114 184 [·] 795 111 [·] 605 64 [·] 878	90 91 92 93 94
95 96 97 98 99	17.814 9.997 5 5.287 0 2.668 0	37'989 20'174 8 10'177 3 4'890 3 2'222 3	8.442 3	7°381 4 4°466 6 2°490 1 1°301 5 °677 2	16.886 8 9.505 4 5.038 8 2.548 7 1.247 2	36'115 2 19'228 4 9'723 0 4'684 2 2'135 5	96 97 98 99
100 101 102	*592 5 *247 7 *080 6	328 3	1°329 7 °408 9 °080 6	°33° 3 °161 1 °078 6	·570 0 ·239 7 ·078 6	·888 3 ·318 3 ·078 6	100 101

 $\mathbb{N}_x = \mathbb{D}_x + \mathbb{D}_{x+1} + \dots$

 $S_x = N_x + N_{x+1} + \dots$

 $\mathbf{O}^{\mathbf{M}(5)}$ logarithms and co-logarithms of D_x , N_x , C_x , M_x $\mathbf{2}_{2}^{1}$ per cent.

x	$\log D_x$	$\log N_x$	$\log \mathrm{C}_x$	$\log \mathrm{M}_x$	$\operatorname{col}\operatorname{D}_{x}^{\cdot}$	col N _x	col Cx	$\operatorname{col} \mathbf{M}_x$	x
10 11 12 13 14	4'923 46 '910 06 '896 65 '883 23 '869 80	6°358 97 °342 74 °326 40 °309 95 °293 38	2.700 26 .689 54 .677 49 .666 11	4.448 68 .440 86 .433 10 .425 40 .417 78	5.076 54 .089 94 .103 35 .116 77 .130 20	7.641 03 .657 26 .673 60 .690 05	3 ² 99 74 310 46 322 51 333 89 345 28	5.551 32 .559 14 .566 90 .574 60 .582 22	10 11 12 13 14
15 16 17 18 19	·856 35 ·842 89 ·829 41 ·815 91 ·802 39 ·788 85	276 69 259 87 242 91 225 82 208 58	644 00 633 27 623 21 612 49 601 76	'410 22 '402 71 '395 27 '387 86 '380 52	'143 65 '157 11 '170 59 '184 09 '197 61	723 31 740 13 757 09 774 18 791 42 808 81	356.00 366 73 376 79 387 51 398 24	589 78 597 29 604 73 612 14 619 48	15 16 17 18 19
20 21 22 23 24 25	700 05 775 29 761 69 748 07 734 42	191 19 173 65 155 94 138 05 119 99	592 36 583 62 573 55 564 80 556 03	373 22 365 97 358 74 351 56 344 41 337 28	211 15 224 71 238 31 251 93 265 58	826 35 844 06 861 95 880 01	'407 64 '416 38 '426 45 '435 20 '443 97 '451 45	634 03 641 26 648 44 655 59	21 22 23 24 25
26 27 28 29 30	.707 01 .693 24 .679 43 .665 56	083 29 064 63 045 76 026 66	'540 40 '532 88 '526 60 '519 64 '514 52	'330 16 '323 05 '315 96 '308 84	·292 99 ·306 76 ·320 57 ·334 44 ·348 36	916 71 935 37 954 24 973 34	'459 60 '467 12 '473 40 '480 36 '485 48	669 84 676 95 684 04 691 16	26 27 28 29 30
31 32 33 34 35	.637 66 .623 62 .609 50 .595 31	5.987 75 .967 91 .947 79 .927 39 .906 69	'508 71 '503 44 '499 90 '496 24 '493 04	294 58 287 41 280 21 272 95 265 62	362 34 376 38 390 50 404 69	6.012 25 .032 09 .052 21 .072 61	'491 29 '496 56 '500 10 '503 76 '506 96	705 42 712 59 719 79 727 05 734 38	31 32 33 34 35
36 37 38 39 40	566 65 552 18 537 59 522 87 508 03	.885 67 .864 32 .842 62 .820 56	'490 27 '489 02 '488 10 '487 50 '487 69	258 23 250 76 243 17 235 47 227 64	'433 35 '447 82 '462 41 '477 13 '491 97	114 33 135 68 157 38 179 44	.509 73 .510 98 .511 90 .512 50	741 77 749 24 756 83 764 53	36 37 38 39 40
41 42 43 44 45	'493 03 '477 88 '462 55 '447 02 '431 29	775 24 751 95 728 21 703 99 679 26	'488 62 '490 70 '492 88 '495 61 '499 70	'219 67 '211 52 '203 19 '194 64 '185 86	506 97 522 12 537 45 552 98	'224 76 '248 05 '271 79 '296 01 '320 74	'511 38 '509 30 '507 12 '504 39	780 33 788 48 796 81 805 36	41 42 43 44 45 46
46 47 48 49 50 51	382 62 365 82 348 70 331 21	654 01 628 19 601 77 574 73 547 02 518 60	503 73 508 92 514 34 520 33 526 80 533 67	176 82 167 50 157 88 147 89 137 52 126 75	'584 67 '600 89 '617 38 '634 18 '651 30 '668 79	345 99 371 81 398 23 425 27 452 98 481 40	496 27 491 08 485 66 479 67 473 20 466 33	823 18 832 50 842 12 852 11 862 48 873 25	47 48 49 50 51
52 53 54	'313 34 '295 03 '276 24	.489 43 .459 47 .428 66	.540 88 .548 99 .556 94	115 52 103 80 091 53	·686 66 ·704 97 · 723 76	'510 57 '540 53 '571 34	450 33 '459 12 '451 01 '443 06	.854 48 .896 20 .908 47	52 53 54

 $\mathbf{N}_x = \mathbf{D}_x + \mathbf{D}_{x+1} + \dots$ $\mathbf{S}_x = \mathbf{N}_x + \mathbf{N}_{x+1} + \dots$

 $\mathbf{OM}(5)$ LOGARITHMS AND CO-LOGARITHMS OF D_x , N_x , C_x , M_x $\mathbf{2}_{2 \text{ cent.}}^{1 \text{ per}}$

x	$\log D_x$	$\log N_x$	$\log C_x$	$\log M_x$	$\operatorname{col} \operatorname{D}_{\boldsymbol{x}}$	$col N_x$	$\operatorname{col} \mathbf{C}_x$	$\operatorname{col} \mathbf{M}_x$	x
		log IV x		log III.		COI IV		cor mx	
55	4.256 94	5.396 96	2.262 00	4.078 66	5.743 06	6.603 04		5.921 34	55
56	'237 07	'364 30	573 15	'065 13	762 93	635 70	426 85	934 87	56
57	216 59	330 63	'581 59	'050 92	783 41	669 37	41841	949 08	57
58	195 42	295 87	'589 75	035 92	·804 58	704 13	'410 25	964 08	58 59
59	173 52	259 96	'597 62	020 09	·826 48	'740 04	'402 38	·979 91	
60	150 81	.555 83	605 68	003 35	849 19	777 17	394 32	-996 65	60
61	127 21	184 38	613 19	3.985 62	.872 79	815 62		4.014 38	61
62 63	102 64	144 54	619 96	·966 79	·897 36	855 46	380 04	'033 21	62 63
64	'077 01	.103 50	626 48	.946 80 .925 51	'922 99 '949 78	·896 80 ·939 74	373 5 ² 368 06	°053 20	64
l	050 22						-		1 1
65	022 16	.012 60	636 81	902 84	977 84	-984 40	363 19 359 61	'097 16	65 66
66 67	3.992 71	4.969 10 .920 64	640 39	·878 64 ·852 79	4.007 29 .038 25	5.030 90	357 23	121 30	67
68		870 07	644 05	825 15	030 25	129 93	355 95	174 85	68
69	·929 12 ·894 67	817 22	643 43	795 55	105 33	182 78	356 57	'204 45	69
ı			641 21	763 82	141 76	238 06	358 79	236 18	70
70 71	·858 24 ·819 63	.761 94 .704 04	636 97	703 82	141 70	238 00	350 79	230 10	71
72	77865	643 31	630 63	693 20	'221 35	356 69	369 37	306 80	72
73	735 05	579 54	621 74	653 87	264 95	420 46	378 26	346 13	73
74	.688 61	512 49	.61001	611 54	.311 39	487 51	389 99	'388 46	74
75	639 05	44191	.595 26	565 95	'36o 95	.558 09	'404 74	434 05	75
76	.286 09	367 50	577 21	516 82	413 91	632 50	422 79	483 18	76
77	529 41	288 97	555 53	·463 80	470 59	71103	444 47	.536 20	77
78	468 63	205 97	529 57	406 54	·531 37	'794 03	'470 43	.593 46	78
79	'403 41	'118 15	'499 26	. 344 69	·596 59	.881 82	'500 74	.655 31	79
80	.333 29	.025 00	'464 01	·277 79	·666 71	'974 91	·535 99	.722 21	80
81	25782	3.926 37	'423 19	'205 40	.742 18	4.073 63	.576 81	'794 60	81
82	176 52	.821 21	376 39	127 03	·823 48	178 49	.623 61	872 97	82
83	.088 83	'709 99	322 95	·042 14	911 17	290 01	677 05	957 86	83
84	2'994 18	.231 23	262 53	2.920 13	3.002 82	'408 77	ı	3.049 87	84
85	.891 86	·464 61	194 36	·850 33	108 14	535 39	805 64	149 67	85
86	781 13	329 44	117 02	741 97	218 87	670 56	·882 98	258 03	86 87
87	661 31	.182 01	.030 81	'624 41	338 69	·814 99	3.066 24	375 59	88
88	.231 39	2.864 93	1.933 76	'496 61 '357 78	'468 61 '609 44	3.132 04 3.132 04	174 86	.503 39 .642 22	89
1	'390 56		825 14			1	294 63	793 01	90
90	237 89	.687 46	705 37	'206 99	.762 11 .928 21	'312 54 '503 10	'430 29	957 35	91
91 92	1.891 93	'496 90 '292 25	'569 71 '422 64	.042 65 1.864 45	2.108 02	707 75	577 36	2.132 22 - 331 33	92
93	695 53	071 98	254 41	669 57	304 47	928 02	745 59	330 43	93
94	483 32	1.835 18	074 65	458 83	516 68	2.164 85	925 35	541 17	94
95	250 75		0.868 14	227 55	749 25	420 34	<u>1</u> .131 86	772 45	95
96	0.999 89	379 81		0'977 97	1.000 11	695 19		1.022 03	96
97	723 21	007 62	396 22	702 33	.276 79	992 38	.603 78	297 67	97
98	426 18	0.689 34	114 43	406 32	.573 82	ī·310 66	.885 57	.293 68	98
99	114 43	'346 80	ī·830 70	*0 9 5 9 4	·885 57	653 20	0.169 30	·904 0 6	99
100	1.77271	ī·964 17	'518 95	ī·755 87	0.227 29	0.032 83			100
101	394 01	516 27	207 20	379 67	605 99	'483 73	'792 80		101
102	2.906 17	<u>2</u> .906 17	2.895 44	2.895 44	1.093 83	1.093 83	1.104 26	1.104 26	102
	'	'	<u> </u>						

$$N_x = D_x + D_{x+1} + \dots$$

 $S_x = N_x + N_{x+1} + \dots$

 $O^{M(5)}$

VALUES OF a_x , A_x , P_x , and of \overline{a}_x , \overline{A}_x , \overline{P}_x

 $2^{\frac{1}{2}}_{\text{\tiny CENT.}}^{\text{\tiny PER}}$

\boldsymbol{x}	a_x	A_x	P_{x}	$ar{a}_x$	$\overline{\mathbf{A}}_{m{x}}$	$\overline{\mathrm{P}}_{x}$	x
10 11 12 13 14 15 16 17 18	26.259 26.082 25.900 25.713 25.521 25.323 25.120 24.912 24.698 24.479	'33 514 '33 947 '34 391 '34 847 '35 317 '35 799 '36 293 '36 801 '37 321 '37 856	'01 229 '01 253 '01 278 '01 305 '01 332 '01 360 '01 389 '01 420 '01 452 '01 486	26.756 26.579 26.397 26.210 26.018 25.820 25.617 25.409 25.195 24.976	'33 932 '34 370 '34 819 '35 281 '35 755 '36 244 '36 745 '37 259 '37 787 '38 328	'01 268 '01 293 '01 319 '01 346 '01 374 '01 404 '01 434 '01 466 '01 500 '01 535	10 11 12 13 14 15 16 17 18 19
20 21 22 23 24	24.255 24.024 23.788 23.546 23.298	38 403 38 965 39 541 40 132	'01 521 '01 557 '01 595 '01 635 '01 677	24.752 24.521 24.285 24.043 23.795	38 881 39 451 40 034 40 632 41 244	'01 571 '01 609 '01 649 '01 733	20 21 22 23 24
25 26 27 28 29	23.044 22.783 22.517 22.245 21.967	'41 357 '41 990 '42 639 '43 304 '43 983	'01 720 '01 766 '01 813 '01 863 '01 915	23.541 23.280 23.014 22.742 22.464	'41 871 '42 516 '43 172 '43 844 '44 531	01 779 01 826 01 876 01 928 01 982	25 26 27 28 29
30 31 32 33 34	21.683 21.392 21.095 20.792 20.482	'41 678 '45 386 '46 109 '46 850 '47 604	*01 970 *02 027 *02 087 *02 150 *02 216	22.180 21.289 21.292 21.289	'45 232 '45 950 '46 684 '47 432 '48 197	.'02 039 '02 099 '02 162 '02 228 '02 297	30 31 32 33 34
35 36 37 38 39	20'167 19'846 19'518 19'185 18'846	'48 372 '49 156 '49 955 '50 767 '51 594	°02 285 °02 358 °02 435 °02 515 °02 600	20.664 20.343 20.015 19.682	'48 975 '49 768 '50 578 '51 400 '52 237	'02 370 '02 446 '02 527 '02 612 '02 701	35 36 37 38 39
40 41 42 43 44	18·502 18·152 17·796 17·436 17·070	52 434 53 289 54 155 55 035 55 927	°02 689 °02 782 °02 881 °02 985 °03 095	18·999 18·649 18·293 17·933 17·567	.53 087 .53 951 .54 830 .55 719 .56 622	°02 794 °02 893 °02 997 °03 107 °03 223	40 41 42 43 44
45 46 47 48 49	16'700 16'325 15'946 15'564 15'177	56 829 57 742 58 666 59 602 60 544	°03 211 °03 333 °03 462 °03 598 °03 742	17'197 16'822 16'443 16'061 15'674	57 536 58 462 59 398 60 341 61 297	°03 346 °03 475 °03 612 °03 757 °03 911	45 46 47 48 49
50 51 52 53 54	14.788 14.395 14.000 13.603 13.204	.61 492 .62 451 .63 413 .64 383 .65 357	°03 895 °04 057 °04 228 °04 409 °04 601	15 [.] 285 14 [.] 892 14 [.] 497 14 [.] 099 1 3 [.] 700	.62 257 .63 228 .64 203 .65 186 .66 171	'04 073 '04 246 '04 429 '04 623 '04 830	50 51 52 53 54

 $O^{M(5)}$

VALUES OF a_x , A_x , P_x , and of \overline{a}_x , \overline{A}_x , \overline{P}_x

x	a_x	A.,	Px	\overline{a}_x	$\overline{\mathbf{A}}_{m{x}}$	$\cdot \overline{\mathbf{P}}_{x}$	\boldsymbol{x}
55	12.804	.66 332	°04 805	13,300	.67 159	.02 020	55
56	12'404	.67 307	'05 022	12,000	.68 147	.05 283	56
57	12.003	·68 286	.02 22	12.499	.69 137	.02 231	57
5 8	11.605	.69 263	'05 496	12.008	70 127	°5 797	58
59	11,505	.70 238	.05 756	11.698	71 115	·o6 o79	5 9
60	10.804	71 210	.06 033	11.300	72 097	·o6 38o	60
61	10.407	72 179	.06 328	10'902	·73 o8o	·06 703	61
62	10.013	.73 139	·06 641	10.208	'74 °53	·07 047	62
63	9.622	.74 095	·06 976	10.112	.75 018	. '07 415	63
64	9.534	.75 040	·07 333	9.729	75 9 7 8	.07 810	64
65	8.850	75 977	.07 713	9.344	•76 926	·08 232	65
66	8.471	.76 901	.08 1 20	8.965	.77 863	·o8 685	66
67	8.097	.77 811	·o8 554	8.291	.78 787	'09 171	67
68	7.729	.78 710	'09 017	8.323	.79 697	·09 69 3	68
69	7.367	79 594	.09 213	7.860	·80 5 92	10 254	69
70	7.011	·8o 46o	10 043	7.204	·81 470	10 857	70
71	6.663	·81 309	.10 910	7.156	.82 331	11 506	71
72	6.353	.82 139	11 217	6.814	.83 173	12 206	72
73	2.990	82 951	11 867	6.482	83 995	12 959	73
74	5.666	·83 739	12 562	6.122	·84 797	13 772	74
75	5.321	·84 508	13 306	5.841	·85 576	14 650	75
76	5 33 ⁴ 5 045	85 257	13 300	5.232	·86 333	15 599	76
77	4 '749	.85 979	14 957	5.237	·87 o68	16 625	77
78	4'462	·86 678	15 870	4.950	.87 778	·17 734	78
79	4.182	·87 353	16 848	4.672	·88 464	18 935	79
80	3.018	·88 oo4	17 894	4.404	.89 125	'20 237	80
81	3.665	·88 630	19 012	4.147	·89 760	·21 646	81
82	3.416	.89 230	20 208	3.899	·90 371	23 176	82
83	3.180	89 807	21 486	3.662	90 957	.24 836	83
84	2.954	90 355	.22 851	3.455	91 518	26 641	84
85	- 2.739	·90 880	·24 306	3.518	92 053	·28 6o1	85
86	2.234 2.234	91 378	25 854	3.015	92 562	.30 728	86
87	2'340	91 854	27 504	2.816	93 047	33 046	87
88	2.122	92 304	29 252	2.630	93 507	35 559	88
89	1,081	92 730	31 106	2.453	93 943	38 297	89
90	1.816	93 132	33 077	2.582	94 357	41 293	90
91	1.991	93 510	35 136	2.138	94 745	44 521	91
92	1.214	93 869	33 130	1.978	95 117	48 095	92
93	1.379	93 198	37 540	1.840	95 456	51 876	93
94	1.548	94 517	42 039	1.406	·95 788	56 154	94
95	1.133	94 798	44 452	1.286	·96 o83	60 574	95
96	1.018	95 078	'47 115	1.467	·96 376	65 674	96
97	'925	95 306	49 512	1.370	96 617	70 523	97
98	.833	95 530	52 117	1.573	.96 857	·76 o85	98
99	.708	95 832	.56 123	1'142	·97 180	·85 o81	99
100	·554	. 96 197	.61 901	.983	97 573	·99 280	100
101	325	96 752	.73 013	.748	. 98 154	1.31 310	101
102	.000	97 561	97 561	415	.98 975	2.38 361	102
			, ,				

OM(5) LOGARITHMS OF a_x , A_x , P_x , and of \overline{a}_x , \overline{A}_x , \overline{P}_x $2\frac{1}{2}$ per cent.

x	log a _x	$\log A_x$	$\log P_x$	$\log \overline{a}_x$	$\log \overline{\mathbf{A}}_x$	$\log \overline{\mathrm{P}}_x$	x
10 11 12 13 14	1'435 51 '432 68 '429 75 '426 72 '423 58	7·525 22 ·530 80 ·536 45 ·542 17 ·547 98	2.089 71 .098 12 .106 70 .115 45 .124 40	1'427 42 '424 54 '421 55 '418 47 '415 27	7·530 61 ·536 18 ·541 82 ·547 54 ·553 34	2·103 19 ·111 63 ·120 24 ·129 08 ·138 05	10 11 12 13 14
15 16 17 18 19	'420 34 '416 98 '413 50 '409 91 '406 19	553 87 559 82 565 86 571 95 578 13	'133 53 '142 84 '152 36 '162 04 '171 94	'411 96 '408 53 '404 99 '401 31 '397 52	559 24 565 20 571 23 577 34 583 52	147 27 156 67 166 25 176 03	15 16 17 18 19
20 21 22 23 24	'402 34 '398 36 '394 25 '389 98 '385 57	584 37 590 68 597 05 603 49 609 99	'182 03 '192 32 '202 80 '213 51 '224 42	393 61 389 54 385 34 380 99 376 49	589 74 596 06 602 43 608 87 615 36	196 12 206 53 217 09 227 89 238 87	20 21 22 23 24
25 26 27 28 29	381 01 376 28 371 39 366 33 361 10	616 55 623 15 629 81 636 53 643 28	235 54 246 87 258 42 270 20 282 18	371 82 366 98 361 99 356 83 351 49	'621 91 '628 55 '635 20 '641 91 '648 66	'250 08 '261 57 '273 21 '285 08 '297 17	25 26 27 28 29
30 31 32 33 34 35	355 69 350 09 344 29 338 29 332 08	650 09 656 92 663 79 670 71 677 64	294 40 306 83 319 50 332 42 345 56	345 96 340 23 334 29 328 16 321 78	.655 45 .662 29 .669 17 .676 07 .683 02	'309 48 '322 05 '334 88 '347 92 '361 24	30 31 32 33 34 35
36 37 38 39	325 00 319 02 312 14 305 03 297 69	691 58 698 58 705 58 712 60	350 93 372 56 386 44 400 55 414 91	'315 21 '308 42 '301 36 '294 07 '286 52 '278 73	696 95 703 96 710 96 717 98	'374 77 '388 53 '402 61 '416 89 '431 46	36 37 38 39
41 42 43 44 45	290 07 282 21 274 07 265 66 256 97 247 97	7726 64 7733 64 7740 64 7747 62	444 43 459 57 474 98 490 65	270 73 ·270 66 ·262 28 ·253 65 ·244 70 ·235 45	724 99 732 00 739 02 746 00 752 99 759 94	440 20 461 35 476 73 492 36 508 29 524 49	41 42 43 44 45
46 47 48 49 50	247 97 238 68 229 08 219 15 208 91	754 57 '761 49 '768 39 '775 26 '782 07 '788 82	522 81 539 31 556 11 573 16	235 45 225 88 215 98 205 77 195 18	759 94 •766 87 •773 77 •780 61 •787 44 •794 19	524 49 540 99 557 80 574 84 592 25 609 93	46 47 48 49 50
51 52 53 54	196 32 187 39 176 09 164 44 152 42	795 54 ·802 18 ·808 77 ·815 29	608 15 626 09 644 33 662 87	172 95 161 28 149 19 136 72	·800 91 ·807 56 ·814 15 ·820 67	627 96 646 28 664 96 683 95	51 52 53 54

OM(5) LOGARITHMS OF a_x , A_x , P_x , AND OF \overline{a}_x , \overline{A}_x , \overline{P}_x $2\frac{1}{2}$ cent.

		1					
\boldsymbol{x}	$\log a_x$	$\log A_x$	$\log P_x$	$\log ar{a}_x$	$\log \overline{\mathbf{A}}_{m{x}}$	$\log \overline{\mathrm{P}}_{x}$	\boldsymbol{x}
	7:740.00	7.821 72	<u>2</u> ·681 70	T:700 85	7.907 70	2·703 25	55
55	1'140 02	·828 o6		1.153 82	T·827 10 '833 45	722 86	56
56	127 23		.700 83	°110 59		742 84	57
57	'114 04	·834 33	720 29	090 88	839 71	742 64	58
58	100 45	·840 50	740 05	082 71	'845 89		59
59	·086 44	·846 57	.460 13	.068 11	.851 96	.783 85	
60	.072 02	.852 54	·780 52	·053 o8	·857 92	.804 84	60
61	·05? x7	·858 41	'801 24	·037 51	·863 8o	·826 30	61
62	.041 00	·864 15	.822 25	021 52	·869 54	·84 8 02	62
63	·026 19	.869 79	·843 6o	·005 05	875 17	·870 I2	63
64	'010 04	875 29	.865 25	o [.] 988 o5	·88o 69	·89 2 64	64
65	0'993 44	·88o 68	·887 24	970 55	886 07	915 52	65
66	976 39	.885 93	909 54	952 56	.891 33	938 77	66
67	958 89	891 04	932 15	934 03	896 45	962 42	67
68	940 95	896 03	955 08	914 99	'901 44	986 45	68
69	922 55	.900 88	978 33	1895 41	906 29	1.010 89	69
70	1	905 58	1.001 88	.875 30		035 71	70
70	903 70		l .		911 00	.060 92	71
	·884 41 ·864 66	910 14	025 73	·854 65	915 56	086 57	72
72		914 55	049 89	·833 43	.919 98		73
73	^{.8} 44 49	918 82	074 33	.811 68	924 25	112 57	74
74	823 88	922 93	·099 05	.789 38	·928 38	'139'00	
75	802 86	926 90	124 04	.766 52	932 35	165 84	75
76	781 41	'930 73	149 32	'743 09	936 18	193 10	76
77	759 56	'934 39	174 83	. 719 10	·939 86	.220 76	77
78	737 34	'937 91	200 57	·694 5 9	'943 39	·248 81	78
79	71474	'941 28	.226 54	669 49	'946 77	277 27	79
80	·691 80	'944 50	25270	·643 86	950 00	.306 12	80
81	.668 55	947 58	279 03	61771	953 08	·335 38	81
82	'644 99	950 51	305 52	.591 00	956 03	.365 04	82
83	621 16	.953 31	332 15	.563 75	958 84	·395 o8	83
84	.597 05	955 95	358 90	535 95	96151	425 55	84
85	572 75	958 47	385 72	507 65	964 04	456 38	85
86	548 31	950 84	412 53	478 90	966 43	487 53	86
87	523 70	963 10	'439 40	449 59	968 70	519 12	87
88	499 06	965 22	466 16	419 89	970 84	550 95	88
89	474 37	967 22	492 85	389 70	.972 86	583 16	89
1			1		1	615 88	90
90	449 57	969 10	519 53	.328 91	974 77		91
91	'425 11	970 86	545 75	327 99	'976 56 '978 26	.648 56 .682 10	92
92	'400 32	972 52	572 20	296 16	978 20	714 97	93
93 94	'376 45 '351 86	974 04	597 59 623 65	'264 84	981 31	714 97	94
1		975 51		'231 93	1		
95	328 91	976 80	647 89	200 36	982 65	.782 29	95
96	304 92	·978 o8	673 16	166 58	'983 97	·817 39	96
97	'284 41	'979 12	694 71	136 72	·985 o5	·848 33	97
98	263 16	'980 14	716 98	104 83	'986 13	'881 30 '929 83	98 99
99	232 37	.081 21	'749 14	°57 74	987 58		
100	191 46	'983 16	791 70	Ī '992 47	'989 33	996 86	100
101	122 26	985 66	.863 40	.873 61	1016.	0.118 30	101
102	.000 00	·989 27	·989 27	618 29	' 995 53	377 23	102

 $\mathbf{OM}(5)$

VALUES OF TEMPORARY ANNUITIES OF 1

 $2^{rac{1}{2}}_{ar{2}}^{
m per}$

Dura-	10	II	12	13	14	15	16	17	18	19	Dura-
tion.	26.259	26.082	25.900	25.713	25.521	25.323	25.120	24.912	24.698	24.479	tion.
0	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	0
1	970	.970	'970	'970	.970	.969	969	•969	.969	.969	1
2	1,010	1.010	1,010	1,010	1,000	1,000	1,000	1.000	1.000	1.000	2
3 4	2.821	2.821	2.821	2.821	2.821	2.820	2.820	2.820	2.820	2.819	3
	3.705	3.705	3.705	3.704	3.704	3.704	3.403	3.403	3.702	3.402	4
5	4.262	4.261	4.261	4.261	4.260	4.260	4.559	4.558	4.228	4'557	5
6 7	5.393 6.198	5.392 6.192	6.196 2.391	6.196 2.391	6.192 2.300	6.193 6.389	6.193 6.389	6.191 6.388	6.190 2.384	5.386	6 7
8	6.979	6.978	6.977	6.975	6.974	6.973	6.971	6.970	6.968	6.966	8
9	7.735	7.734	7.733	7.731	7.730	7.728	7.726	7.724	7.722	7.720	9
10	8.469	8.467	8.466	8.464	8.462	8.460	8.458	8.455	8.452	8.449	10
1	0.180	9.178	9.176	9.174	9'171		9.166	9,163	9,160	9.126	1
2	9.869	9.866	9.864	9.862	9.859	9.856	9.852	9.849	9.845	9.840	2
3	10.236	10.234	10.231	10.228	10.22	10.251	10.212	10.213	10.208	10.203	3
4	11.184	11.180	11.172	11.14	11.140	11.199	11.191	11.126	11,120	11'144	4
15	11811	11.807	11.803	11.799	11.795	11.490	11.784	11.778	11.772	11.765	15
6	12.418	12'414	12.410	12.405	12.400	12.394	12.388	12.381	12.374	12.366	в
7	13.002	13.003	12.997	15.992	12.086	12.979	12.972	12:964	12.956	12.947	7
8 9	13.577	13.571	13.266	13.260	13.223	13.246	13.238	13.229	13.219	13.209	8
	14.150	14.153	14.117	14.110	14'102	14.094	14.085	14.075	14.064	14.022	9
20	14.664	14.657	14.650	14.642	14.634	14'624	14.614	14.603	14.291	14.578	20
1 2	15.183	15.174	15.666	15.026	15.148	15.138	15.156	15.114	15.100	15.086	1
3	16.168	15.675	16.140	16.130	16.122	15.634	16.100	15.607	16.068	15.246 16.020	2 3
4	16.638	16.628	16.614	16.602	16.292	16.228	16.265	16.242	16.22	16.202	4
25	17.093	17.081	17.070	17.057	17.042	17.026	17.009	16,931	16.970	16.948	25
6	17.532	17.20	17.207	17.493	17.477	17.460	17'441	17.420	17:398	17.374	6
7	17.958	17.944	17.930	17.914	17.897	17.878	17.857	17.835	17.811	17.784	7
8	18.369	18.354	18.339	18.321	18.302	18.585	18.259	18.235	18.308	18.179	8
9	18.767	18.751	18.733	18.712	18.694	18.671	18.647	18.620	18.291	18.259	9
30	19.121	19.133	19.112	19'094	19.072	19.047	19.021	18.991	18.960	18.925	30
1	19.22	19.203	19.483	19.461	19'436	19.409	19.380	19.349	19.315	19.277	1
2	19.880	19.860	19.838	19.814	19.787	19.758	19.727	19.693	19.656	19.615	2
3 4	20.226	20.204	20.180	20.154	20.122	20.094	20.060 20.081	20.023	19.983	19.939	3 4
	- 1	20.236			20.451		-	20'341		20.520	
35 6	20.882	20.856	20.828	20.798	20 . 765	20.728	20 .689	20.646 20.938	20.299 20.888	20.548	35 6
7	21.402	21.462	21.429	21,102	21.322	21.313	21,564	21.512	21.164	21.102	7
8	21.442	21.447	21.413	21.674	21.633	21.288	•	21.485	21,424	21.364	8
9	22.056	22.022	21.984	21.944	21.899	21.851	21.798	21.741	21.679	21.612	9
40	22.323	22.582		22.505		22.103	22.046	21.985	21.919	21.847	40
1	22.578	22.238	22.496	22.449	22.398			22.512			1
2	22.824	22.481	22.735	22.682	22.631	22.572		22.438		22.581	2
8	23.029	23.014	22.964	22.011	22.853		22.722	22.647		22.481	3
4	23.584			23.127			22.925	22.846		22.669	4
45			23.392							22.846	45
6	23.706	23.651		23.227	23.457	23.381	23.599		23.112		6
7 8	23.902	23.844	23.780	23.712 23.888	23.038	23.224	23.471			23.164	7 8
9	24.089 24.267	24 027	23.960	24.023	23.809 23.970	23 [.] 724 23 [.] 880	23.783	23.532 23.678		23'311	9
			-7 -35		-3910					-3 773	
	IO	II	12	13	14	15	16	17	18	19	

 $O^{M(5)}$

VALUES OF TEMPORARY ANNUITIES OF 1

 $2^{\frac{1}{2}}_{\text{CENT.}}^{\text{PER}}$

O	Dura-	20	21	22	23	24	25	26	27	28	29	Dura-
1	tion.	24.255	24.024	23.788	23.546	23.298	23.044	22.783	22.517	22.245	21.967	tion.
2	0		.000	.000		.000		.000		.000	.000	0
8 2*819 2*810 2*818 2*818 2*817 2*817 2*816 2*815 2*815 2*81 3*701 3*701 3*700 3*698 3*698 3*697 3*697 3*696 3*694 3*698 3*697 3*697 3*696 3*694 3*698 3*697 3*697 3*696 3*694 3*698 3*698 3*697 3*697 3*696 3*694 4*547 4*546 4*548 4*553 4*552 4*550 4*540 4*547 4*546 4*548 4*553 5*388 5*388 5*388 5*388 5*388 5*388 5*388 5*388 5*376 5*374 5*372 5*370 5*367 7*6187 6*185 6*183 6*181 6*178 6*176 6*173 6*170 6*167 6*163 6*163 6*163 6*193									, , ,		.968	1
4 3701 3701 3700 3699 3698 3697 3697 3696 3694 3696 56 47556 47554 47554 47552 47550 47549 47547 47546 47546 6768 6783 57385 57385 57378 57378 57376 57374 57372 57370 5736 57374 57372 57370 5736 57374 57372 57370 5736 57374 57372 57370 5736 57374 57372 57370 5736 57374 57372 57370 5736 57374 57372 57370 57369 77777 77717 77717 77717 77707 77097 77699 77695 77690 77684 7767 77691 77691 7771 77714 77711 77717 77707 77699 77695 77690 77684 77674 77614 77711 77717 77707 77690 77684 77690 77684 77691						-	-				1,000	2
6 4*556 4*555 4*554 4*553 4*552 4*550 4*549 4*547 4*546 4*54 6 5*384 5*383 5*382 5*386 5*376 6*173 6*176 6*176 6*176 6*176 6*176 6*176 6*176 6*176		-									2.814	8
6 5'384 5'383 5'385 5'386 5'378 5'376 5'376 5'372 5'370 5'36 7 6'187 6'185 6'183 6'181 6'176 6'176 6'173 6'170 6'167 8 6'964 6'962 6'959 6'956 6'953 6'950 6'946 6'943 6'938 6'93 9 7'717 7'714 7'711 7'707 7'703 7'699 7'695 7'690 7'684 7'67 10 8'446 8'442 8'438 8'434 8'439 8'424 8'418 8'442 8'458 8'431 9'132 9'125 9'149 9'111 9'103 9'09 2 9'835 9'830 9'824 9'818 9'811 9'804 9'796 9'787 9'777 9'76 3 10'497 10'491 10'484 10'477 10'469 10'460 10'450 10'440 10'428 11'120 15 11'757 11'749 11'740 11'730 11'718 11'094 11'082 11'070 11'056 11'04 16 12'357 12'347 12'337 12'325 12'312 12'298 12'833 12'67 12'249 12'249 8 13'497 13'485 13'471 13'456 13'440 13'422 13'430 13'332 13'338 13'339 14'039 14'025 14'010 13'993 13'944 13'932 13'933 13'909 13'883 13'85 20 14'563 14'547 14'530 14'511 14'988 14'943 14'936	1				1							4
7 6187 6185 6183 6181 6176 6176 6170 6167 6167 6168 6964 6962 6956 6956 6955 6956 6956 6946 6943 6938 6938 6938 7717 7714 7711 7707 7703 7695 7695 7695 7696 7684 7697 7714 7711 7707 7703 7695 7695 7695 7696 7684 7697 7714 7714 7711 7707 7703 7699 7695 7695 7696 7684 7697 7714 7714 7711 7707 7703 7699 7695 7695 7696 7684 7697 7695 7697 777			4 555	4.554	4 553	4.552						5
8			5303					5 374				6 7
9						_						8
10	• : 1		-									9
2 9'835 9'830 9'824 9'818 9'811 9'826 9'796 9'797 9'797 9'797 9'797 8' 9'797 9								-				
2 9.835 9.830 9.824 9.818 9.811 9.804 9.796 9.787 9.777 9.766 3 10.497 10.491 10.460 10.450 10.440 10.428 10.417 10.401 10.400 10.450 10.440 10.428 10.417 10.418 11.138 11.130 11.122 11.114 11.104 11.094 11.082 11.070 11.056 11.044 11.056 11.041 11.094 11.082 11.070 11.056 11.041 11.041 11.094 11.082 11.070 11.056 11.041 11.041 11.041 11.041 11.094 11.082 11.070 11.056 11.041 11.041 11.041 11.041 11.094 11.082 11.070 11.056 11.041 11.041 11.093 11.059 11.056 11.041 11.094 11.093 11.059 11.056 11.041 11.094 11.094 11.093 11.059 11.056 11.041 11.041 11.094 11.093 11.059 11.056 11.041 11.041 11.094 11.094 11.093 11.059 11.056 11.041 11.041 11.041 11.094 11.												10 1
8 10·497 10·491 10·484 10·477 10·469 10·460 10·450 10·440 10·428 10·41 11 11 11 11 11 11 11									-			2
11 1 1 3												3
15							-					4
6		_		1	i .					•		15
7 12.937 12.925 12.914 12.900 12.886 12.870 12.833 12.834 12.814 12.79 8 13.497 13.485 13.471 13.456 13.442 13.932 13.382 13.358 13.358 9 14.039 14.025 14.010 13.993 13.974 13.954 13.933 13.909 13.883 13.85 20 14.563 14.547 14.530 14.511 14.490 14.468 14.443 14.417 14.387 14.351 1 15.069 15.051 15.032 15.011 14.488 14.463 14.493 14.906 14.873 14.83 2 15.558 15.538 15.517 15.493 15.468 15.440 15.409 15.376 15.340 3 16.030 16.068 15.984 15.958 15.930 15.899 15.865 15.829 15.789 15.74 4 16.485 16.497 16.868 16.837 16.802 16.724 16.680 16.632 16.57 6 17.347 17.318 17.286 17.252 17.214 17.173 17.128 17.080 17.027 16.97 7 17.754 17.723 17.688 17.050 17.609 17.504 17.516 17.463 17.027 16.97 7 17.754 18.112 18.074 18.033 17.988 17.939 17.886 17.829 17.766 17.69 9 18.524 18.487 18.446 18.401 18.352 18.903 18.241 18.179 18.111 18.03 30 18.887 19.910 19.143 19.901 19.033 18.971 18.903 18.380 18.751 18.66 2 19.571 19.522 19.470 19.413 19.331 19.284 19.211 19.133 19.047 18.95 3 19.891 19.839 19.783 19.722 19.655 19.582 19.504 19.419 19.327 19.22 4 20.199 20.142 20.638 20.266 20.480 20.390 20.294 20.190 20.077 19.95 6 20.773 20.896 20.815 20.727 20.631 20.528 20.417 20.297 20.166 2 21.206 21.222 21.141 21.054 20.960 20.858 20.749 20.630 20.503 20.503 3 22.386 22.285 22.176 22.258 21.931 21.495 2						•	•			•	•	6
8											- 1	7
9											-	8
20				• • •								9
1 15'069 15'051 15'032 15'011 14'988 14'963 14'936 14'906 14'873 14'83' 15'558 15'558 15'558 15'558 15'558 15'558 15'558 15'558 15'558 15'558 15'984 15'499 15'865 15'829 15'749 15'749 16'485 16'461 16'434 16'406 16'375 16'303 16'203 16'203 16'219 16'17 16'724 16'887 16'868 16'837 16'802 16'751 17'731 17'238 17'286 17'252 17'214 17'173 17'128 17'080 17'027 16'976 17'754 17'723 17'688 17'650 17'609 17'564 17'516 17'463 17'405 17'465 17'465 17'463 18'112 18'074 18'033 17'988 17'939 18'847 18'112 18'074 18'033 18'351 18'236 19'236 19'191 19'143 19'091 19'033 18'971 18'903 18'837 18'456 19'324 19'839 19'783 19'722 19'457 19'452 19'470 19'413 19'351 19'836 19'782 19'631 19'839 19'783 19'722 19'655 19'585 19'782 19'691 19'327 19'522 19'470 19'413 19'351 19'866 19'782 19'691 19'327 19'224 20'199 20'142 20'082 20'016 19'944 19:866 19'782 19'691 19'327 19'224 20'199 20'142 20'082 20'016 19'944 19:866 19'782 19'691 19'327 19'224 12'054 20'960 20'858 20'497 20'630 20'077 19'955 20'838 20'497 20'164 20'197 21'348 21'387 21'387 21'388	20		. •	1		• • • •				_		20
2 15.558 15.538 15.517 15.493 15.468 15.440 15.409 15.376 15.340 15.30 16.008 16.008 15.984 15.958 15.930 15.865 15.829 15.789 15.789 15.749 16.485 16.461 16.434 16.406 16.375 16.340 16.303 16.263 16.219 16.17 16.924 16.897 16.868 16.837 16.802 16.765 16.724 16.680 16.632 16.579 17.754 17.738 17.286 17.550 17.609 17.564 17.138 17.088 17.609 17.564 17.138 17.086 17.609 17.564 17.516 17.463 17.405 17.347 17.318 18.044 18.033 17.988 17.939 17.886 17.829 17.766 17.609 18.852 18.524 18.487 18.446 18.401 18.352 18.299 18.241 18.179 18.111 18.03 19.236 19.191 19.143 19.091 19.033 18.971 18.903 18.830 18.751 18.66 19.831 19.891 19.839 19.												1
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VALUES OF TEMPORARY ANNUITIES OF 1

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15 6	21.683 .000 .968 1.906 2.813 3.692 4.542 5.364 6.159 6.928 7.672 8.390 9.084 9.754 10.401 11.026 11.628 12.208 12.767 13.305 13.823 14.321	21·392 ·000 ·968 1·905 2·812 3·690 4·539 5·361 6·155 6·923 7·665 8·381 9·074 9·742 10·386 11·608 11·608 12·185 12·741 13·276 13·790	21·095 '000 '968 1'905 2'811 3'689 4'537 5'357 6'150 6'916 7'657 8'372 9'062 9'728 10'370 10'989 11'585 12'159 12'712 13'243	20·792 ·000 ·968 1·904 2·810 3·687 4·534 5·353 6·145 6·910 7·648 8·361 9·049 9·713 10·352 10·968 11·561 12·132 12·680	10'945 11'535 12'102	20·167 ·000 ·967 1·903 2·808 3·683 4·528 5·345 6·133 6·894 7·629 8·337 9·020 9·678 10·920 11·506	10.803	19-518 *000 '967 1'902 2'805 3'678 4'520 5'334 6'119 6'876 7'606 8'309 8'985 9'636 10'262 10'864	19·185 *000 '967 1·901 2·803 3·675 4·516 5·328 6·111 6·865 7·592 8·292 8·966 9·613 10·235 10·831	18·846 ·000 ·966 1·900 2·802 3·672 4·512 5·322 6·102 6·854 7·578 8·275 8·944 9·588 10·205	1 2 3 4 5 6 7 8 9 10 1 2 3
1 2 3 4 5 6 7 8 9 10 1 2 3 4 15 6	.968 1.906 2.813 3.692 4.542 5.364 6.159 6.928 7.672 8.390 9.084 9.754 10.401 11.026 11.628 12.208 12.767 13.305 13.823 14.321	968 1.905 2.812 3.690 4.539 5.361 6.155 6.923 7.665 8.381 9.742 10.386 11.608 11.608 12.185 12.741 13.276	.968 1.905 2.811 3.689 4.537 5.357 6.150 6.916 7.657 8.372 9.062 9.728 10.370 10.989 11.585 12.159 12.712	.968 1.904 2.810 3.687 4.534 5.353 6.145 6.910 7.648 8.361 9.713 10.352 10.968 11.561 12.132	.968 1.904 2.809 3.685 4.531 5.349 6.902 7.639 8.350 9.696 10.332 10.945 11.535 12.102	967 1.903 2.808 3.683 4.528 5.345 6.133 6.894 7.629 8.337 9.020 9.678 10.311	*967 1.903 2.807 3.680 4.524 5.340 6.126 6.886 7.618 8.324 9.658 10.288 10.893	.967 1.902 2.805 3.678 4.520 5.334 6.119 6.876 7.606 8.309 8.985 9.636 10.262	.967 1.901 2.803 3.675 4.516 5.328 6.111 6.865 7.592 8.292 8.966 9.613	966 1.900 2.802 3.672 4.512 5.322 6.102 6.854 7.578 8.275 8.944 9.588 10.205	1 2 3 4 5 6 7 8 9 10 1
2 3 4 5 6 7 8 9 10 1 2 3 4 15 6	1.906 2.813 3.692 4.542 5.364 6.159 6.928 7.672 8.390 9.084 9.754 10.401 11.026 11.628 12.208 12.767 13.305 13.823 14.321	1'905 2'812 3'690 4'539 5'361 6'155 6'923 7'665 8'381 9'074 9'742 10'386 11'608 11'608 12'185 12'741 13'276 13'790	1.905 2.811 3.689 4.537 5.357 6.150 6.916 7.657 8.372 9.062 9.728 10.370 10.989 11.585 12.159 12.712	1.904 2.810 3.687 4.534 5.353 6.145 6.910 7.648 8.361 9.049 9.713 10.352 10.968 11.561 12.132	1.904 2.809 3.685 4.531 5.349 6.902 7.639 8.350 9.035 9.696 10.332 10.945 11.535 12.102	1.903 2.808 3.683 4.528 5.345 6.133 6.894 7.629 8.337 9.020 9.678 10.311 10.920	1.903 2.807 3.680 4.524 5.340 6.126 6.886 7.618 8.324 9.658 10.288 10.893	1.902 2.805 3.678 4.520 5.334 6.119 6.876 7.606 8.309 8.985 9.636 10.262	1.901 2.803 3.675 4.516 5.328 6.111 6.865 7.592 8.292 8.966 9.613	1.900 2.802 3.672 4.512 5.322 6.102 6.854 7.578 8.275 8.944 9.588 10.205	2 3 4 5 6 7 8 9 10 1 2
3 4 5 6 7 8 9 10 1 2 3 4 15 6	2·813 3·692 4·542 5·364 6·159 6·928 7·672 8·390 9·084 9·754 11·026 11·628 12·208 12·767 13·305 13·823 14·321	2.812 3.690 4.539 5.361 6.155 6.923 7.665 8.381 9.074 9.742 10.386 11.008 11.608 12.185 12.741 13.276 13.790	2·811 3·689 4·537 5·357 6·150 6·916 7·657 8·372 9·062 9·728 10·370 10·989 11·585 12·159 12·712	2.810 3.687 4.534 5.353 6.145 6.910 7.648 8.361 9.049 9.713 10.352 10.968 11.561 12.132	2·809 3·685 4·531 5·349 6·902 7·639 8·350 9·035 9·696 10·332 10·945 11·535 12·102	2.808 3.683 4.528 5.345 6.133 6.894 7.629 8.337 9.020 9.678 10.311	2·8o7 3·68o 4·524 5·34o 6·886 7·618 8·324 9·658 10·288 10·893	2.805 3.678 4.520 5.334 6.119 6.876 7.606 8.309 8.985 9.636 10.262	2.803 3.675 4.516 5.328 6.111 6.865 7.592 8.292 8.966 9.613	2·802 3·672 4·512 5·322 6·102 6·854 7·578 8·275 8·944 9·588 10·205	3 4 5 6 7 8 9 10 1
4 5 6 7 8 9 10 1 2 3 4 15 6	3.692 4.542 5.364 6.159 6.928 7.672 8.390 9.084 9.754 11.026 11.628 12.208 12.767 13.305 13.823 14.321	3.690 4.539 5.361 6.155 6.923 7.665 8.381 9.074 9.742 10.386 11.608 11.608 12.185 12.741 13.276 13.790	3.689 4.537 5.357 6.150 6.916 7.657 8.372 9.062 9.728 10.370 10.989 11.585 12.159 12.712	3.687 4.534 5.353 6.145 6.910 7.648 8.361 9.049 9.713 10.352 10.968 11.561 12.132	3.685 4.531 5.349 6.139 6.902 7.639 8.350 9.035 9.696 10.332 10.945 11.535 12.102	3.683 4.528 5.345 6.133 6.894 7.629 8.337 9.020 9.678 10.311	3.680 4.524 5.340 6.126 6.886 7.618 8.324 9.004 9.658 10.288 10.893	3.678 4.520 5.334 6.119 6.876 7.606 8.309 8.985 9.636 10.262	3.675 4.516 5.328 6.111 6.865 7.592 8.292 8.966 9.613	3.672 4.512 5.322 6.102 6.854 7.578 8.275 8.944 9.588 10.205	4 5 6 7 8 9 10 1 2
6 7 8 9 10 1 2 3 4 15 6	4.542 5.364 6.159 6.928 7.672 8.390 9.084 9.754 10.401 11.026 11.628 12.208 12.767 13.305 13.823 14.321	4 539 5 361 6 155 6 923 7 665 8 381 9 074 9 742 10 386 11 008 11 608 12 185 12 741 13 276 13 790	4.537 5.357 6.150 6.916 7.657 8.372 9.062 9.728 10.370 10.989 11.585 12.159 12.712	4'534 5'353 6'145 6'910 7'648 8'361 9'049 9'713 10'352 10'968 11'561 12'132	4.531 5.349 6.139 6.902 7.639 8.350 9.035 9.696 10.332 10.945 11.535 12.102	4.528 5.345 6.133 6.894 7.629 8.337 9.020 9.678 10.311	4.524 5.340 6.126 6.886 7.618 8.324 9.004 9.658 10.288 10.893	4.520 5.334 6.119 6.876 7.606 8.309 8.985 9.636 10.262	4.516 5.328 6.111 6.865 7.592 8.292 8.966 9.613	4.512 5.322 6.102 6.854 7.578 8.275 8.944 9.588	6 7 8 9 10 1 2
6 7 8 9 10 1 2 3 4 15 6	5.364 6.159 6.928 7.672 8.390 9.084 9.754 10.401 11.026 11.628 12.208 12.767 13.305 13.823 14.321	5.361 6.155 6.923 7.665 8.381 9.742 10.386 11.608 11.608 12.185 12.741 13.276 13.790	5'357 6'150 6'916 7'657 8'372 9'062 9'728 10'370 10'989 11'585 12'159	5'353 6'145 6'910 7'648 8'361 9'049 9'713 10'352 10'968 11'561	5.349 6.139 6.902 7.639 8.350 9.035 9.696 10.332 10.945 11.535 12.102	5'345 6'133 6'894 7'629 8'337 9'020 9'678 10'311	5'340 6'126 6'886 7'618 8'324 9'004 9'658 10'288	5.334 6.119 6.876 7.606 8.309 8.985 9.636 10.262	5.328 6.111 6.865 7.592 8.292 8.966 9.613	5.322 6.102 6.854 7.578 8.275 8.944 9.588	6 7 8 9 10 1 2
8 9 10 1 2 3 4 15 6	6.159 6.928 7.672 8.390 9.084 9.754 10.401 11.026 11.628 12.208 12.767 13.305 13.823 14.321	6.155 6.923 7.665 8.381 9.074 9.742 10.386 11.008 11.608 12.185 12.741 13.276 13.790	6.150 6.916 7.657 8.372 9.062 9.728 10.370 10.989 11.585 12.159 12.712	6'145 6'910 7'648 8'361 9'049 9'713 10'352 10'968 11'561	6.139 6.902 7.639 8.350 9.635 9.696 10.332 10.945 11.535 12.102	6.133 6.894 7.629 8.337 9.020 9.678 10.311	6.126 6.886 7.618 8.324 9.004 9.658 10.288	6·119 6·876 7·606 8·309 8·985 9·636	6.111 6.865 7.592 8.292 8.966 9.613	6·102 6·854 7·578 8·275 8·944 9·588	8 9 10 1 2
9 10 1 2 3 4 15 6	7.672 8.390 9.084 9.754 10.401 11.026 11.628 12.208 12.767 13.305 13.823 14.321	7 665 8 381 9 074 9 742 10 386 11 008 11 608 12 185 12 741 13 276 13 790	7.657 8.372 9.062 9.728 10.370 10.989 11.585 12.159 12.712	7.648 8.361 9.049 9.713 10.352 10.968 11.561 12.132	7.639 8.350 9.035 9.696 10.332 10.945 11.535 12.102	7.629 8.337 9.020 9.678 10.311 10.920	7.618 8.324 9.004 9.658 10.288	7.606 8.309 8.985 9.636 10.262	7.592 8.292 8.966 9.613	7.578 8.275 8.944 9.588	9 10 1 2
10 1 2 3 4 15 6	8·390 9·084 9·754 10·401 11·026 11·628 12·208 12·767 13·305 13·823 14·321	8·381 9·074 9·742 10·386 11·008 .11·608 12·185 12·741 13·276 13·790	8·372 9·062 9·728 10·370 10·989 11·585 12·159	8·361 9·049 9·713 10·352 10·968 11·561 12·132	8·350 9·035 9·696 10·332 10·945 11·535 12·102	8·337 9·020 9·678 10·311 10·920	8·324 9·004 9·658 10·288	8·309 8·985 9·636	8·292 8·966 9·613	8·275 8·944 9·588 10·205	10 1 2
1 2 3 4 15 6	9.084 9.754 10.401 11.026 11.628 12.208 12.767 13.305 13.823 14.321	9'074 9'742 10'386 11'008 .11'608 12'185 12'741 13'276 13'790	9.062 9.728 10.370 10.989 11.585 12.159	9.049 9.713 10.352 10.968 11.561 12.132	9.035 9.696 10.332 10.945 11.535	9.020 9.678 10.311 10.920	9.004 9.658 10.893	8°985 9°636 10°262	8.966 9.613 8.966	8.944 9.588 10.502	1 2
2 3 4 15 6	9.754 10.401 11.026 11.628 12.208 12.767 13.305 13.823	9'742 10'386 11'008 .11'608 12'185 12'741 13'276 13'790	9.728 10.370 10.989 11.585 12.159	9'713 10'352 10'968 11'561 12'132	9.696 10.332 10.945 11.535 12.102	9.678 10.311 10.320	9.628 10.893	9.636	9.613	9.588 10.502	2
3 4 15 6	10'401 11'026 11'628 12'208 12'767 13'305 13'823	10.386 11.008 .11.608 12.185 12.741 13.276	10'370 10'989 11'585 12'159	10'352 10'968 11'561 12'132	10'332 10'945 11'535 12'102	10.311	10.803	10.565	10.532	10.502	
15 6	11.026 11.628 12.208 12.767 13.305 13.823	11.608 12.185 12.741 13.276 13.790	10.989 11.285 12.129 12.712	10'968 11'561 12'132	10'945 11'535 12'102	10'920	10.893		1	I	
6	12.208 12.767 13.305 13.823 14.321	12°185 12°741 13°276 13°790	11'585 12'159 12'712	11.261	11,232	11.206		-		10.797	4
6	12.208 12.767 13.305 13.823 14.321	12°185 12°741 13°276 13°790	12.129	12,135	12'102		11'475	11'441	11'403	11.363	15
7	13.823 14.321	13.276 13.276	•	12.680		12.069		11'994	11.951	11.905	6
	13.823	13.790	13'243		12.646	12.609		12.23	12.475	12.423	7
	14'321			13.502	13.168		13.080	13.030	12.976	12.917	8
1 1			13.753	13.714	13.669	13.622	13.240	13.214	13.453	13.388	9
		14.583	14.545	14.198		14.096	14.039	13.976	13.008	13.835	20
	14.799	14.757	14'711	14.662		14.249	14.485	14'416	14.341	14'260	1
	15.698	15.647	15.201	15.230	15.046	14.981	14'911	14.834	14.751	14 [.] 662	2 3
	19.119	16.063	19.001	15'935	15.862	15.784	15.699	15.607	15.204	15.400	4
	16.22	16.460	16.393	16.330	16.541	16.122	16.065	15.962	15.853	15.737	25
	16.902	16.840	16.766	16.687	16.600	16.202	16'406	16.592	16.140	16.052	6
	17.274	17.201	17.121	17.034	16.941	16.839	16.430	16.911	16.484	16.347	7
	17.624	17.244	17.457	17:364	17.262	17.123	17:034	16.907	16.769	16.622	8
	17.957	17.870	17.776	17.675	17.265	17.447	17:320	17.182	17.035	16.877	9
	18.272	18'179	18.078	17:969	17.850	17.723	17.587	17.439	17.281	17'112	30
	18 [.] 571	18.471 18.746	18.362 18.629	18.244	18.118	17.981	17.835	17.677	17.209	17:329	1 2
	10'120	19'004	18.879	18·503 18·745	18.364 18.600	18.444	18.278	18.100	17 710	17.527	3
	19.370	19'247	19,113	18.970	18.815	18.650	18.474	18.285	18.084	17.870	4
	19.605	19.473	19.331	19.179	19.012	18.840	18.653	18.453	18.241	18.016	35
	19.824	19.684	19.233	19.371	19.198	19.013	18.819	18.606	18.383	18.147	6
7	20.020	19.880	19.720	19.249	19.366	19.171	18.963	18.743	18.209	18.263	7
1	20.518	20.060	19.891	19.711	19.218	19.313	19.096	18.865	18.621	18.364	8
1	20.393	20.554	20.048	19.859	19.656	19.441	19.214	18.973	18.719	18.453	9
	20.224	20.379	20,101	19,993		19.556	19.318	19.068	18.804		40
	20'701	20.217	20.320	50,510				19.120	18·878 18·940	18·593 18·647	1 2
	20.022	20.755	20 430	20.314	20'074			19'282	18.993	18.693	3
	21.062	20.855	20.632	20.397		19.889	19.617	19.335	19.036	18.729	4
1 1	21.165	20'944	20.215	20.469		19.946		19'374		18.759	45
6	21.248	21.022	20.782	20.231	20.568		19.707	19.409		18.782	· в
	21.324	21,080	20.843	20.584	20.314	20.033	19.740	19'437	19'123	18.800	7
	21.389	21.148	20.894	20.629		20.062		19'458	19.141	18.814	8
9	21'446	21.192	20.937	20.666	20.383	20.091	19.788	19.475	19.124	18.824	9
	30	31	32	33	34	35	36	37	38	39	

 $O^{M(5)}$

VALUES OF TEMPORARY ANNUITIES OF 1

 $2^{\frac{1}{2}}_{\bar{2}\;\text{cent.}}^{\text{per}}$

Dura-	40	4 I	42	43	44	45	46	47	48	49	Dura-
tion.	18.502	18·152	17.796	17:436	17:070	16.700	16.325	15.946	15.564	15.177	tion.
0	.000	, •000	.000	.000	.000	.000	.000	.000	.000	.000	0
1	•966	.966	.965	.965	.964	.964	•963	.963	962	.961	1
2	1.899	1.898	1.897	1.895	1.894	1.892	1.891	1.889	1.887	1.882	2
3	2.800	2.292	2.792	2.792	2.490	2.786	2.783	2.779	2.775	2.441	3
4	3.668	3.605	3.001	3.657	3.652	3.646	3.641	3.635	3.628	3.620	4
5	4.204	4.201	4.495	4.488	4.481	4.473	4.465	4.455	4.445	4.434	5
6	5.314	5°3°7 6°082	5.298 6.071	5.589	5°279 6°045	5°267 6°030	5°255	5.545	5.558	5.515	6 7
7	6.842	6.828	6.813	6.058	6.780	6.760	6.740	6.414 6.414	5.977 6.692	5.956 6.665	8
8 9	7.562	7.246	7.22	7.206	7.484	7.460	7'434	7.405	7'374	7:340	9
10	8.255	8.234	8.511	8.186	8.159		8.097	8.062	8.024	7.983	10
lĭ	8.921	8.896	8.868	8.838	8.805	8.769	8.730	8.688	8.642	8.592	î
2	9.560	9.530	9.496	9.460	9.421		9.333	9.282	9.228		2
3	10.175	10'137	10.097		10,010		9.906	9.847	9.784	9.715	3
4	10.758	10.414	10.672	10.623	10.240	10.215	10.450	10.385	10,309	10.55	4
15	11.319	11.525	11.550	11'164	11.103		10.962	10.884	10.803	10.413	15
6	11.855	11.801	11.41			11.233	11.452	11.363	11.569	11,199	6
7	12.366	12.302	12.538		12.082		11,910	ſ	11.402	11.289	7
8	12.823	12.784	12.709		12.240		12.345	12,531	12,115	11.984	8
9	13.316	13.539	13.124	1	12.966		12.746		12.492	12.320	9
20	13.755	13.640	13.24		13.364		13.154	12.988	12.844	12.688	20
1	14.121	14.077	13.973		13.743	13.614	13.476		13.160	12.998	1
2	14.265	14.460	14.347		14.092		13.802	13.640	13.468	13.583	2
3 4	14.935	14.821	14.697	1 50		14'268	14.381	13'928	13.741	13.241	3 4
1 -	15.584		15.024	i .	14.725		ľ	' -	13.990	13.775	1
25	15.610	15.475	15.329		15.002		14.635	14'431	14.512	13.986	25 6
6 7	16.300	15.770	15.873	15.443	15.703	15.070	15.075	14.648	14.418	14'173	7
8	16.464	16.542	16.113		15.449		12.565	12.016	14.758		8
9	16.404	16.226	16.333	16.15		15.675	15.430	15.140	14.898	14.613	9
30	16.931	16.739	16.532	16.314	16.082	15.836	15.578	15.305	15.050	14.721	30
1	17'136	16.932	16.713		16.538	15.979	15.708		15.122	14.814	1
2	17.323	17.106	16.875	16.632		16.104	15.821		15.514	14.892	2
3	17.491	17.263	17.020	16.765	16.496		12.018	15.609	15.589	14.956	3
4	17.643	17.403	17.149		16.603	16.302	16.001	15.682	15,321	12.009	4
35	17.778	17.222	17.261	, , ,		16.384	16.041		15.403	15.025	35
6	17.898	17.636	17.359	17.071		16.454	16.158		15.443	15.082	6
7	18.003	17.730	17.443	17'145	16.834		16.172	15.830	15.475	15.111	7
8 9	18.094	17.812	17.515	17.207	16.887	16.225 16.225	16.513	15.881	15.200	15.131	8 9
40		17.939	1 -			16.651					
1		17.987		17.301		16.643		15.003		15.126	40 1
2		18.027	17.699			16.660		15'927		15.169	2
3	18.381	18.028	17.725	17.383	17.032	16.673	16.304		15.226	15'172	3
4		18.083		17.399	17.044	16.685			15.229	15'174	4
45	18.435	18.103	17.760		17.053	16.688				15'176	45
6	18.454	18.118	17.772	17.419	17.059	16.692	16.321	15.943	15.262	15.146	6
7	18.468	18.129		17.425	17.063	16.692	16.323	15.945	15.263	15'177	7
8	18.479	18.136	17.785	17.429	17.066	16.697	16.324	15.942	15.263	15.172	8
9	18.487	18.145	17.789	17.432	17*068	16.698	16.322	15.946	15.264	15.177	9
[40	41	42	43	44	45	46	47	48	49	
	T"	τ-	17	70	77	10		77	τ-		

 $O^{M(5)}$

VALUES OF TEMPORARY ANNUITIES OF 1

 $2^{\frac{1}{2}}_{\bar{2}}^{\text{ per}}_{\text{ cent.}}$

Dura.	50	51	52	53	54	55	56	57	58	59	Dura-
tion.	14.788	14.395	14.000	13.603	13.204	12.804	12:404	12.003	11.602	11.202	tion.
0	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	0
1	.961	.960	'959	.958	.957	.955	954	952	951	'949	1
2	1.882	1.880	1.877	1.874	1.870	1.867	1.863	1.858	1.853	1.848	2
3	2.766	2.461	2.755	2.249	2.742	2.432	2.726	2.414	2.708	2.697	3 4
4	3.613	3.604	3.594	3.283	3.572 4.362	3.260	3.246	3.231	3.212	3.498	
6	4.422 5.195	4'409 5'177	4°394 5°157	4'378 5'134	5.111	4 ³⁴³	4'323 5'057	4.301 5.056	4'277	4.251	5 6
7	5.933	5.908	5.881	5.852	5.820	5.786	5.748	5.708	5.664	5.616	7
8	6.636	6.604	6.269	6.231	6.491	6.447	6.399	6.347	6.501	6.530	8
9	7:304	7.264	7.220	7.173	7.123	7.068	7.008	6.944	6.874	6.800	9
10	7.938	7.889	7.836	7.779	7.717	7.650	7.578	7.200	7.416	7.326	10
1	8.238	8.480	8.416	8.348	8.274	8.194	8.100	8.019	7'916	7.810	1
2	9,106	9.037	8.962	8.881	8.795	8.401	8.601	8.492	8.376	8.253	2
3	9.641	9.261	9'473	9.380	9.280	9'171	9.022	8.931	8.797	8.656	3
4	10'144	10.021	9.951	9.844	9.729	9.606	9.473	9.332	9.180	9.020	4
15	10.612	10.210	10,396	10.522	10.142	10.002	9.856	9.696	9.527	9:348	15
6	11.026	10'937	10.809	10.672	10.227	10.370	10.204	10.026	9.838	9.640	6 7
8	11.466	11,333	11,241	11.938	11.194	10,403	10.801	10.323	10.365	10.152	8
9	12.108	15.036	11.865	11.677	11.485	11.5224	11.024	10.851	10.22	10,355	9
20	12,21	12.344	12'154	11.953	11.40	11.212	11.577	11'027	10.765	10'492	20
ĭ	12.817	12.624	12.418	12,500		11.728	11.473	11,500	10'926	10.637	1
2	13.086	12.877	12.655	12.421	12.175	11.915	11.643	11.359	11.064	10.758	2
3	13.330	13.102	12.867	12.616	12.354	12.078	11.490	11'490	11.140	10.829	3
4	13.248	13.308	13.022	12.788	12.210	12.518	11.012	11.600	11.542	10.941	4
25	13.744	13.488	13.519	12.937	12.644	12.337	12.030	11.691	11.323	11.002	25
6	13.016	13.646	13.365	13.062	12.428	12'438	12.102	11.766	11.416	11.060	6
7	14.068	13.783	13.485	13.175	12.854	12.21	12.178	11.826	11.466	11,100	7
8	14.200	13.901	13.590	13.566		12.289	12.232	11.873	11.204	11.131	8
9	14.313	14.002	13.678	13.343	12'998	12.643	12.380	11,018	11.234	11.124	30
30 1	14.410	14.086 14.126	13.421	13.405	13.020	12.720	12,312	11.938	11.221	11.140	1
2	14.558	14'214	13.858	13'494	13'124	12.745	12,361	11.973	11.285	11,100	2
3	14.613	14.260	13.896	13.25	13.148	12.764	12.376	11.084	11.290	11,102	3
4	14.657	14.296	13.926	13.248	13.166	12.778	12.386	11,001	11.295	11.108	4
35	14.692	14'324	13.948	13.265	13.179	12.787	12.393	11.996	11.298	11,500	35
В	14.719	14'345	13.964	13.248	13.188	12.794	12.397	11.999	11.600	11.501	6
7	14.40	14.361	13.976	13.287	13.194	12.798	12.400	12.000	11.601	11,505	7
8	14.755	14.373	13.985	13.293	13.198	12.801	12.402	12.002	11.601	11.505	8
9	14.766	14.381	13.990	13.257	13.501	12.803	12.403	12.002	11.602	11.505	9
40	14.774	14.386	13.994	13.299	13.503	12.803	12.403	12.003	11.603	11,505	40
	14'779	14.390			13.503		12'404		_		1 9
3	14.783		13.999		13 ² 04		12'404	12.003	11.605	11'202 11'202	2 3
4	14.786		14.000		13.204		12'404	12.003	11.605	59	"
45	14.787		14.000		13'204		12'404	12.003	58		
6	14.787		14.000		13'204		12'404	57		50	
7	14.787	14.395	14.000		13.504	12.804	T - T		51	14.788	
8	14.788		14.000	13.603	13.204	•		52	14.395	-	
9	14.788	14.392	14.000	13.603				14.000		14.788	52
								14'000	14.395	14·788 14·788	1 50
									14.395		
	50	51	52	53	54	55	56	52	51	50	
 ;	<u> </u>		<u>'</u>		<u>.</u>						

 $O^{M(5)}$

VALUES OF TEMPORARY ANNUITIES OF 1

 $2^{\frac{1}{2}}_{\bar{2}\,\text{cent.}}^{\,\text{per}}$

Dura-	60	61	62	63	64	65	66	67	68	69	Dura-
tion.	10.804	10-407	10.013	9.622	9.234	8.850	8.471	8.097	7.729	7:367	tion.
0	,000	.000	.000	.000	,000	.000	.000	.000	.000	.000	0
1	·947	. 945	. 943	'940	·937	. 934	.931	·928	.924	920	1
2	1.842	1.836	1.829	1.822	1.813	1.804	1.792	1.482	1.773	1.461	2
3	2.686	2.673	2.660	2.645	2.629	2.612	2.23	2.24	2.220	2.256	3
4	3'479	3'459	3.436	3.412	3.386	3.357	3.322	3.593	3'257	3.510	4
5	4.553	4'192	4.129	4'124	4.082	4.043	3.998	3'949	3.897	3.841	5
6	4.918	4.876	4.830	4.481	4.727	4.670	4.609	4.243	4.472	4.396	6
7	5.262	5.209	5.449	5.382	5.312	5.241	5.191	5.076	4.982	4.888	7
8	6.162	6.092	6.019	2.938	5.821	5.757	5.628	5.252	5'439	5.319	8
9	6.419	6.633	6.240	6'441	6.332	6.551	6.101	5.973	5.837	5.694	9
10	7.229	7.126	7.014	6.896	6.769	6.635	6.493	6.342	6.183	6.016	10
1	7.695	7.574	7.443	7:305	7'157	7.001	6.837	6.663	6.481	6.591	1
2	8.130	7.979	7.829	7.670	7.201	7.323	7.136	6.940	6.735	6.225	2
3	8.204	8.343	8.173	7.993	7.802	7.602	7:393	7:175	6.948	6.713	8
4	8.849	8.668	8.477	8.276	8.064	7.843	7.613	7.373	7.125	6.869	4
15	9.122	8.956	8.744	8.522	8.590	8.048	7.797	7.537	7:269	6.995	15
6	9.429	9.208	8.977	8.734	8.482	8.220	7'949	7.671	7.385	7.095	6
7	9.668	9.428	9.176	8.915	8.643	8.362	8.074	7.779	7.477	7.172	7
8	9.876	9.617	9.346	9.066	8.777	8.479	8.174	7.864	7.548	7.230	8
9	10.022	9.778	9.489	9.192	8.886	8.573	8.254	7.930	7.602	7.273	9
20	10.504	9'913	9.608	9.295	8.974	8.647	8.315	7:980	7.642	7:305	20
1	10.332	10.022	9.705	9.378	9.043	8.704	8.362	8.017	7.671	7:327	1
2	10'441	10,119	9.783	9'443	9.097	8·748 8·780	8.396	8.044 8.063	7.692	7'342	2
3 4	10.28	10,130	9.844 9.892	9'493	9.138	8.803	8.421	8.076	7.706 7.715	7:352	3 4
	10.298	10.248	9.028	9.232	9.168	8.820	8.439	8.084		7.358	
25	10.692	10'293		9 · 560	9,190	8.831	8.451 8.459	8.000	7.721	7°362 7°364	25
6 7	10.728	10.324	9'955 9'974	9.595	9.500	8.838	8.464	8.093	7.724	7.365	6 7
8	10,752	10.321	9.988	9.605	9.223	8.843	8.467	8.092	7.727	7.366	8
9	10.769	10.384	9'997	9.613	9.558	8.846	8.469	8.096	7.728	7.366	9
30	10.781	10.393	10.004	9.616	9.230	8.848	8.470	8.096	7.728	7.367	30
1	10.400	10.398	10.002	9.619	9.535	8.849	8.470	8.092	7.729	7.367	1
2	10.792	10,405	10.010	9.620	9.533	8.849	8.471	8.097	7.729	7.367	2
3	10.400	10.404	10,011	9.621	9.533	8.849	8.471	8.097	7.729	7.367	3
4	10.801	10.406	10'012	9.621	9.533	8.850	8.471	8.097	7.729	69	Ĭ
35	10.802	10.407	10'012	9.622	9.234	8.850	8.471	8.097	68		
6	10.803	10.407	10,013	9.622	9'234	8.850	8.471	67		40	
7	10.803	10.407	10.013	9.622	9.234	8.850	66		4 I	18:502	
8	10.803	10.407	10.013	9.622	9.234	65		42	18.152		
9	10.804	10'407	10.013	9.622	64		43	17:796		18.203	62
40	10.804	10.402	10.013	68		44	17:436		18.12	18.203	1
1	10.804	10'407	62		45	17:070	17.430	17.796	18.125	18.203	60
2	10.804	61		46	16.700		17.436	17.796	18.12	18.205	59
	60		47	16.325		17.070	17.436	17.796		18.202	8
		48	15.946		16.400			17.796		18.201	7
	49	15.564		16.325	16.400	17.070		17.796		18.201	6
	15.177		15.946	16.325	16.700	17.070	17.436			18.201	5
ا ہے ا		15.264	15.946	16.325	16.700		17.436		18.121	18.200	54
53	15.177	15.264	15.946	16.325	16.400	17.070	17.435	17.795	18.121	18.200	8
2 1	15.177	15.264	15'946	16.322		17.070	17.435	17.795	18.120	18.498	2
50	15.177	15.264	15'946	16.322	16.699 16.699	17.070	17.434	17.794	18.148	18'496	1 50
	15.177	15.264	15'946	16.322		17.069	17'433	17.792		18.492	
	49	48	47	46	45	44	43	42	41	40	

OM(5)

VALUES OF TEMPORARY ANNUITIES OF 1

 $2^{rac{1}{2}}_{ ilde{2}\, ext{cent.}}^{\, ext{per}}$

Dura-	50	51	52	53	54	55	56	57	58	59	Dura-
tion.	14.788	1 4·3 95	14.000	13.603	13.204	12.804	12:404	12.003	11.602	11.202	tion.
0	•000	.000	•000	.000	.000	.000	.000	.000	.000	.000	0
1	.961	•960	959	.958	.957	.955	954	952	951	'949	1
2	1.882	1.880	1.877	1.874	1.870	1.867	1.863	1.858	1.853	2.697	2 3
3 4	2.466 3.612	2.461 3.604	2°755 3°594	3.283 3.283	3.572	2.735 3.260	2.726 3.246	3.231	3.212	3.498	4
5	4'422	4.409	4°394	4.348	4 362	4'343	4.353	4.301	4.577	4.521	5
6	5,162	2.177	5.124	5.134	2.111	5.082	5.022	5.026	4'993	4.957	6
7	5.933	5.908	5.881	5.852	5.820	5.486	5.748	5.408	5.664	5.616	7
8	6.636	6.604	6.269	6.231	6.491	6.447	6.399	6.344	6.591	6.530	8
9	7:304	7.264	7.220	7.173	7.123	7.068	7.008	6.944	6.874	6.800	9
10	7.938	7.889	7.836	7:779	7.717		7:578	7:500	7.416	7:326	10
1	8.538	8.480	8.416	8.348	8.274	8.194	8.100	8.016	7.916	7.810	1
3	9.106	9.037	8.962	6.380 8.881	8·795 9·280	8.701 9.141	8.601	8.492 8.931	8·376 8·797	8·253 8·656	2 3
4	9.641	9.261	9'473	9.844	9.729	9.606	9°055 9°473	9.332	0,180	9.030	4
15	10.612	10,210	10,399	10.544	10.142	10.002	9.856	9.696	9.527	9.348	15
6	11.026	10.937	10.800		10.22	10.340		10.056	9.838	9.640	6
7	11.466	11.333	11.101	11.038	10.876	10.703	10.218	10.323	10.119	9.898	7
8	11.847	11.699	11.241	11.373	11'194	11.003	10.801	10.284	10.365	10.122	8
9	12.198	12.036	11.862	11.677	11.485	11.524	11.024	10.851	10.22	10.355	9
20	12.221	12.344	12.124	11.923	11.240	11.212	11.522	11.022	10.462	10.492	20
1	12.817	12.624	12.418	12'200	11.971	11.728	11.473	11.500	10.026	10.637	1
2	13.086	12.877	12.655	12.421	12.172	11,012	11.643	11.359	11.064	10.428	2 3
3 4	13.330	13.308	12.867	12.016	12,324	12.018	11.430	11.400	11.149	10,041	4
25	13.744	13.488	13.510	12.937	12.644	12.332	15.050	11.601	11,323	11.002	25
6	13.016	13.646	13.365	13.062	12.758	12.438	1	11.766	11.416	11.000	6
7	14.068	13.783	13.485	13.172	12.854		12.178	11.826		11,100	7
8	14.500	13.901	13.290	13.566	12.933	12.289	12.532	11.873	11.204	11.131	8
9	14.313	14.003	13.678	13.343	12.998	12.643	12.580	11.010	11.234	11.124	9
30	14.410	14.086	13.751	13.405	13.020	12.686	12.312	11.938	11.222	11.140	30
1	14.491	14.126		13.455	13.092	12.720	12'342	11.958		11.185	1
2 3	14.558	14.514	13.858	13.494	13.174	12.745	12.361	11'973	11.285	11.100	2 3
4	14.657	14.296	13.926	13.525	13.166	12.778		11.991	,	11.108	4
35	14.692	14.324	13.948	13.262	_	12.787		11.006		11,500	35
6	14.210	14'345	13.964	13.578		12.794	12.392	11,000	11.600	11,501	6
7	14.740	14.361	13.976	13.287		12.798		12.000		11.505	7
8	14.755	14.373	13.982	13.263	13.198	12.801	12.402	12.003	11.601	11.505	8
9	14.766	14.381	13.990	13.259				12.003	11.603	11.505	9
40	14.774	14.386	13.994	13.299	13.503	12.803	12.403	12.003	11.603	11.505	40
1 1									11.602		1
2	14 703	14.392	13.000			12.804 12.804			11.603	11'202	2 3
3 4	14.786	14 394		13.602		12.804		12.003		59	٥
45	14.787	14'395	1	13.602				12.003	58		
6		14'395				12.804		57		50	
7	14.787			13.603	13.504	12.804	• •		51	14.788	
8	14.788	14'395	14.000		13'204			52	14:395		K O
9	14.788	14.392	14.000	13.603				14.000		14.788 14.788	52 1
				1				14.000	14.395	14.788	50
			E2				<u> </u>				<u> </u>
	50	51	52	53	54	55	56	52	51	50	أسيسا

 $O^{M(5)}$

VALUES OF TEMPORARY ANNUITIES OF 1

 $2^{\frac{1}{2}}_{\bar{2}\;\text{cent.}}^{\text{per}}$

Dura-	60	61	62	63	64	65	66	67	68	69	Dura-
tion.	10.804	10.407	10.013	9.622	9.234	8.850	8.471	8:097	7.729	7:367	tion.
0	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	0
1	. 947	1945	'943	•940	. 937	. 934	.931	·928	'924	920	1
2	1.842	1.836	1.829	1.822	1.813	1.804	1.495	1.482	1.773	1.461	2
3	2.686	2.673	2.660	2.645	2.629	2.613	2.293	2.272	2.220	2.256	8
4	3.479	3.459	3.436	3.412	3.386	3.357	3.327	3.593	3.257	3.510	4
5	4.523	4°192 4°876	4.120	4°124 4°781	4.082	4.043	3.998	3'949	3.897	3.841	5
6 7	4.918 2.265	5.209	4.830 5.449	5.385	4'727 5'315	4.670 5.241	4.609	4°543 5°076	4'472 4'985	4.396 4.888	6 7
8	6.162	6.092	6.019	2.938	5.851	5.757	5.658	5.22	5'439	5'319	8
l ĕ	6.419	6.633	6.240	6.441	6.335	6.551	9.101	5.973	5.837	5.694	9
10	7.229	7.126	7.014	6.896	6.769	6.635	6.493	6.342	6.183	6.016	10
1	7.695	7.574	7.443	7:305	7.122	7.001	6.837	6.663	6.481	6.501	1
2	8.150	7.979	7.829	7.670	7.201	7.323	7.136	6.940	6.735	6.22	2
3	8.204	8.343	8.173	7.993	7.802	7.602	7.393	7.175	6.948	6.713	3
4	8.849	8.668	8.477	8.276	8.064	7.843	7.613	7'373	7.125	6.869	4
15	9'157	8.956	8.744	8.22	8.290	8.048	7.797	7.537	7.269	6.992	15
6	9.429	9.508	8.977	8.734	8.482	8.220	7.949	7.671	7.385	7.095	в
7	9.668	9.428	9.176	8.912	8.643	8.362	8.074	7.779	7'477	7.172	7
8	9.876	9.617	9.346	9.066	8.777	8.479	8.174	7.864	7.548	7.230	8
9	10.022	9.778	9.489	9,192	8.886	8.223	8.254	7.930	7.602	7.273	9
20	10.502	9,913	9.608	9.295	8.974	8.647	8.312	7.980	7.642	7:305	20
1	10.332	10.022	9.705	9.378	9.043	8.704	8.362	8.017	7.671	7:327	1
2	10.441	10,119	9.783	9'443	9.097	8.748	8:396	8.044	7.692	7'342	2
8	10.228	10,100	9.844	9.493	9.138	8.780	8.421	8.063	7.706	7:352	3
4	10.208	10.248	9.892	9.532	9.168	8.803	8.439	8.076	7.715	7.358	4
25	10.692	10.393	9.928	9 . 281	9,190	8.820 8.831	8.451	8 084 8 090	7.721	7:362	25
6 7	10.728	10.327	9°955 9°974	9.595	9.506	8.838	8·459 8·464	8.093	7.724	7°364 7°365	6
8	10.752	10.321	9.988	9.605	9.223	8.843	8.467	8.092	7.727	7.366	7 8
9	10.769	10.384	9.997	9.613	9.558	8.849	8.469	8.096	7.728	7.366	9
80	10.781	10,393	10.004	9.616	9.530	8.848	8.470	8.096	7.728	7:367	30
ı	10.790	10.398	10.002	9.619	9.535	8.849	8.470	8.097	7.729	7.367	ĭ
2	10.795	10'402	10 010	9.620	9.533	8.849	8.471	8.097	7.729	7:367	2
3	10.499	10'404	10.011	9.621	9.533	8.849	8.471	8.097	7.729	7:367	3
4	10.801	10,406	10.012	9.621	9.233	8.850	8.471	8.091	7.729	69	1
35	10.803	10.402	10.013	9.622	9.234	8.850	8.471	8.097	68	40	
в	10.803	10.402	10,013	9.622	9.534	8.850	8.471	67	47	40	
7	10.803	10'407	10.013	9.622	9°234	8.820	66	42	41	18.502	
8	10.803	10'407	10.013	9.622	9.234	65	42	42	18.152	18.202	62
9	10.804	10.402	10.013	9.622	64	A A	43	17.796	18.125	18.202	1
40	10.804 10.804	10'407	10.013	68	45	44	17.436	17.796	18.125	18.202	60
1 2	10.804	10'407	62	46		17.070	17.436			18.205	59
^	60	61	47		16.700	17.070	17.436			18.205	8
	===	48		16.325	16.400	17.070		17.796		18.201	7
	49		15.946	16.325	16.400	17.070		17.796		18.201	6
	15.177	15.564	15.946	16.322	16.400	17.070	17.436		18.12	18.201	5
		15.264	15.946	16.322	16.400	17.070	17.436			18.200	54
53	15.177	15.264	15.946	16.322	16.400	17:070	17.435	17.795	18.121	18.200	3
2	15.177	15.264	15.946	16.325	16.699	17.070	17.435	17.795	18.120	18.498	2
1 50	15.177	15.264		16.322	16.699	17.070	17.434	17.794	18.148	18.496	1
	15.177	15.264	15.946	16.322	16.699	17.069	17.433	17.792	18.146	18.492	50
	49	48	47	46	45	44	43	42	41	40	

 $O^{M(5)}$

VALUES OF TEMPORARY ANNUITIES OF 1

 ${\displaystyle {{2}^{1}_{2}}_{\text{cent.}}^{\text{per}}}$

Dura-	70	71	72	73	74	75	76	77	78	79	Dura-
tion.	7:011	6.663	6.323	5.990	5.666	5.351	5.045	4.749	4.462	4.185	tion.
0	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	0
1	.912	.910	1904	.899	.892	.885	.878	.869	.861	.821	1
2	1.44	1.733	1.212	1.400	1.685	1.665	1.641	1.618	1.293	1.266	2
3	2,201	2.473	2.445	2'410	2.372	2.338	2.592	2.524	2.308	2.120	3
4	3.172	3.135	3.084	3.033	2.978	5,010	2.856	2.789	2.419	2.644	4
5	3.481	3.416	3.648	3.574	3.496		3.326	3.533	3,136	3.034	5
6	4.312	4.550	4'137	4.040	3'937		3.412	3.296	3.471	3'341	6
7	4.784	4.675	4.559	4'437	4.308		4.033	3.887	3.736	3.280	7
8	5.192	5.028	4.917	4.770	4.616		4.589	4.118	3'941	3.761	8
9	5.243	5.384	5.219	5.046	4.867	4.682	4'491	4.296	4.097	3.895	9
10	5.841	5.659	5.469	5.522	5.069	4.861	4.648	4.432	4.513	3.953	10
1	6.092	5.886	5.673	5'454	5.229	5.000	4.767	4.232	4'296	4.061	1
2	6.300	6.072	5.837	5.255	5'353	5.102	4.855	4.605	4.355	4.102	2
3	6.471	6.222	5.967	5.708	5.447	5.183	4.919	• 4.656	4'395	4'138	3
4	6.607	6.340	6.068	5.793	5.216	5.239	4.964	4.691	4'422	4.128	4
15	6.715	6.431	6.144	5.855	5.264	5.279	4'994	4.714	4.439	4.140	15
6	6.799	6.201	6.501	2.900	5.602	5.306	5.012	4.728	4.449	4.177	6
7	6.863	6.252	6.241	5.932	5.626	5.324	5.027	4.737	4.455	4.181	8
8 9	6.944 6.910	6.289 6.289	6.270	5.954	5.642	5.336	5.032	4.743	4.458	4.183	9
	6.968		6.500	5.968	5.652	5'343	5.040	4.746	4.460	4'184	
20	6.984	6.633 6.645	6.303	5.978	5.659	5'347	5.043	4.747	4.461	4.184	20 1
1	6.992	6.653	6.311	5.983	5.662	5.349	5.044	4.748	4'462	4.182	2
2		6.657	6.316	5.986	5.664	5.350	5.045	4.748	4.462	4.182	3
3 4	7.002	6.660	6.319	5.989 5.988	5.666	5.351	5.045	4.749	4.462	4'185	u
	7.008	6.662	6.321	1	5.666		5.042	4.749	4'462 78	79	
25	7.010	6.662	6:322	5.990	5.666	5.321	5.042	4.749		30	
6 7	7.011	6.663	6.322	5.990	5.666	5.321 2.321	5.045	77	31		
8	7.011	6.663	6.322	2.990	5.666	75	76	32		21.683	
9	7.011	6.663	6.322	2,990	74		33		21.392	21.683	72
30	7.011	6.663	6.353	73		34		21.095	21.392	21.683	1
ĭ	7.011	6.663	72		35	I ———	20.792	21.092	21.392	21.685	70
2	7.011	71	===	36	20.167	20.482	20.792	21.092	21.392	21.685	69
	70	===	37	10:040		20.482	20.792	21.092	21.392	21.685	8
		38	19.518	19.846	20.164	20.482	20.792	21.092	51,395	21.685	7
	39	19:185		19.846		20.482	20.492	21.092	21.392	21.685	6
	18.846		19.218	19.846		20'482	20.492	21.094	21.392	21.682	5
		19.182	19.218	19.846		20.482	20.792	21.094	21.391	21.681	64
63	18.846	19.182	19.218	19.846		20.482	20.492	21.094	21.391	21.681	3
2	18.846	19.182	19.218	19.846		20.482	20.791	21.094	21,300	21.680	2
1 60	18.846 18.846	19.182	19.218	19.846		20.482			21.389	21.678	1
		-93	19.218			20'481					60
59	18.846		19.218	19.845		20.481					59
8 7	18.846		19.218	19.845	20.162	20 479	20.787	21.082	21.381	21.666	8
6	18·846 18·846		19.214	19.844	20,104	20'477		21.083		21.658	7
5	18.845		19.212	19.843	20102	20'474 20'470	20,74	21.069	21.367	21.635	6 5
54	18.844	19,185		19.837	20,124			21.028	21.357	21.617	
3	18.843	19.179	19.213	19.833	201148		20,754	21.044	21.343	21.2017	54
2	18.840		19.202	19.826	20.139		20.739	21.022	21,305	21.268	3 2
ĩ	18.837		19.498	19.817	20,134		20.720	21.003	21.274	21.234	1
50	18.832	19.164	19'488	19.804	20,111	20.408	20.696	20.973	21.539	21,494	50
	39	38	37	36	35	34	33	32	31	30	
	39	30	3/	J.	33		<i>J</i> J	<u> </u>		30	

 $O^{\mathbf{M}(5)}$

VALUES OF TEMPORARY ANNUITIES OF 1

 $2^{\frac{1}{2}}_{\bar{2}\,\text{CENT.}}^{\text{PER}}$

Dura-	80	81	82	83	84	85	86	87	88	89	Dura-
tion.	3.918	3.662	3.416	3·180	2.934	2.739	2.534	2:340	2.155	1.981	tion.
0	.000	.000	.000	.000	.000	,000	.000	.000	.000	.000	0
1	.840	.829	.817	.804	'790		759	'741	723	.704	1
2	1.238	1.204	1.474	1'440	1'402	1.363	1,355	1.278	1.535	1'184	2
3	2.102	2.025	1.994	1.935	1.864	1.499	1.728	1.622	1.249	1.201	8
4	2.262	2.482	2.396	2.306	2,515	2'114	2.012	1,015	1.808	1.403	4
5	2.927	2.816	2.701	2.283	2'461	2.336	2'210	2.082	1.954	1.826	5
6	3.207	3.069	2.928	2.783	2.636		2.339	2'190	2.044	1.899	6
7	3.420	3'257	3.001	2.924	2.755		2.421	2.257	2.096	1.040	7
8	3.578	3.393	3.506	3.020	2.835		2.472	2.296	2.156	1.961	8
9	3.692	3.488	3.582	3.084	2.885	2.690	2.201	2.317	2'141	1.972	9
10	3.772	3.224	3.337	3'124	2'916		2.218	2.329	2'149	1.977	10
lĭ	3.827	3.597	3.370	3.140	2.934		2.256	1 -	2.123	1.080	1
2	3.863	3.624	3.390	3.163	2.944		2.231	2.338	2.124	1.081	2
3	3.886	3.641	3'402	3.121	2.949		2.233	2.339	2.122	1.081	3
4	3.901	3.651		3.146		2.738					٠
1			3.409		2.952		2.234	2.339	2.122	89	
15	3.909	3.656	3.412	3.178	2.953	2.739	2.234	2.340	88	20	
6	3.013	3.659	3.414	3.179	2'954	2.739	2.234	87	21		
7	3.916	3.661	3.415	3.179	2.954	2.439	86	22		24.255	
8	3.917	3.661	3.412	3.180	2'954	85			24.024	24:07.	
9	3.918	3.662	3.412	3.180	84		23	23.788	241224	24.255	82
20	3.918	3.665	3.416	88		24	23.546		24.024	24.255	1
1	3.918	3.662	82		25	23.298		23.788	24.054	24.522	80
2	3.918	81	-	26	23.044		23.246	23.488	24.024	24.525	79
1	80		27	22.783	20 099	23.598	23.246	23.788	24.054	24.524	8
		28	22:517		23.044	23.598		23.788	24.054	24.224	7
1 1	29		22 017	22.783	23.044	23.598	23.246	23.788	24.024	24.224	6
		22.245	22.217	22.783	23'044	23.298	23.246		24.024	24.254	5
	21.967	22.245	22.217	22.783	23.044		23.546			24.224	74
73	21'967	22.242	22.217				23.246			24.253	3
2	21.967	22.542	22.217			23.297				24.523	2
1	21.967	22.542	22.217			23.297		23.787	24 022	24.521	ī
70	21.967	22.542	22.217	22.783		23.597		23.786	24'021	24.549	70
69	21.967	22.542	22.217	22.783		23.596		23.785	-		
8	21.967	22.242						23 /05	24.019	24'247	69
%			22.217				23.242			24.243	8
6	21.967	22.245	22.217	22.782	23'041		23.240			24.237	7
1 1	21.966	22.244	22.216	22.781			23.537	23.775	24.006	24.530	6
5	21.966	22.244	22.212	22.780				23.769		24.550	5
64	21.965	22.243	22.214	22.778		23.284		23.761	23.988	24.207	64
3	21.964	22.541	22.211	22.774		23.278	23.210	23.751	23.975	24.191	3
2	21.963	22.539	22.208				23.208	23.738	23.958	24.141	2
1	21.960	22.532	22.203	22.763	23.014	23.258	23'494	23.720	23.938	24.144	1
60	21.956	22.530	22.496	22.754	23.003	23'244		23.699		24'117	60
59	21.951		22.487	22.742	22.988	23.226	23.454	23.673	23.882	24.085	59
8	21'944	22.513	22.475	22.726	22.969	23.503	23.428	23.642	23.846	24'041	8
7	21.934			22.707	22.946	23.175		23.605		23.993	7
6	21.921			22.683	22.917		23.357		23.754	23.938	6
5	21.904	22'164	22,414	22.654	22.883	53,105		23.210	23.698	23.875	5
54	21.883	22.138	22.383	22.618	22.842	23.026		23.451		23.805	54
3	21.826		22.347	. 1		23.005		23.384		23.45	3
2	21.824	22.069	22.303			23.035		23.309		23.637	2
١ī١	21.482	22.034	22.222	22.468			23.025	23.552	23.387	23.239	î
50	21.738	21.971	55.105	22.402	22.600 22.014	!		23.131	23.386		50
							22.965			23.432	
	29	28	27	26	25	24	23	22	21	20	

OM(5)

VALUES OF TEMPORARY ANNUITIES OF 1

 $2^{\frac{1}{2}}_{\bar{2}\,\text{cent.}}^{\text{per}}$

0 '000 '000 '000 '000 '000 1 '682 '661 '636 '613 '585 '561 2 1'133 1'081 1'027 '973 '914 '858 3 1'420 1'339 1'255 1'174 1'088 1'008 4 1'596 1'490 1'383 1'281 1'175 1'081 5 1'699 1'575 1'451 1'334 1'218 1'114 1 6 1'757 1'620 1'485 1'361 1'238 1'128 1'128 7 1'787 1'642 1'502 1'373 1'246 1'133	1.018	*833 *000 *488 *710 *803 *833 98 II	·708 ·000 ·455 ·646 ·708 99	O 1 2 3
1 '682 '661 '636 '613 '585 '561 2 1'133 1'081 1'027 '973 '914 '858 3 1'420 1'339 1'255 1'174 1'088 1'008 4 1'596 1'490 1'383 1'281 1'175 1'081 5 1'699 1'575 1'451 1'334 1'218 1'114 1 6 1'757 1'620 1'485 1'361 1'238 1'128 1'128 7 1'787 1'642 1'502 1'373 1'246 1'133	.529 .505 .796 .751 .926 .863 .985 .910 1.010 .925 1.018 .97 .98	'488 '710 '803 '833 98	.455 .646 .708 99	1 2
2 1'133 1'081 1'027 '973 '914 '858 3 1'420 1'339 1'255 1'174 1'088 1'008 4 1'596 1'490 1'383 1'281 1'175 1'081 5 1'699 1'575 1'451 1'334 1'218 1'114 1 6 1'757 1'620 1'485 1'361 1'238 1'128 1'787 1'642 1'502 1'373 1'246 1'133	796 751 926 863 985 910 1'010 925 1'018 97 98 12	.710 .803 .833 98	.646 .708 99	2
3 1'420 1'339 1'255 1'174 1'088 1'008 4 1'596 1'490 1'383 1'281 1'175 1'081 5 1'699 1'575 1'451 1'334 1'218 1'114 1 6 1'757 1'620 1'485 1'361 1'238 1'128 1'128 7 1'787 1'642 1'502 1'373 1'246 1'133	.926 .863 .985 .910 1.010 .925 1.018 .97 .96	·8o3 ·833 98	708 99 10	
4 1.596 1.490 1.383 1.281 1.175 1.081 5 1.699 1.575 1.451 1.334 1.218 1.114 1 6 1.757 1.620 1.485 1.361 1.238 1.128 1.128 7 1.787 1.642 1.502 1.373 1.246 1.133	985 910 1'010 925 1'018 97 96 12	·833 98	10	ช
5 1.699 1.575 1.451 1.334 1.218 1.114 1 6 1.757 1.620 1.485 1.361 1.238 1.128 1 7 1.787 1.642 1.502 1.373 1.246 1.133	1'010 '925 1'018 97 96 12	98 II	10	
6 1.757 1.620 1.485 1.361 1.238 1.128 1 7 1.787 1.642 1.502 1.373 1.246 1.133	1'018 97 96 12	II		
7 1.787 1.642 1.202 1.373 1.246 1.133	96 12			
	T2		26.259	
8 1.803 1.653 1.211 1.378 1.248 95 =	13	26.082		
]	25.900	26.082	26.259	92
10 1.814 1.661 1.214 93 14 25	25.900	26.085	26.529 26.529	1 90
1 1 1.812 1.661 85 - 2 25.251 -	5.413 52.000	26.085	26.529	89
2 1010 91 17 - 25.323 25.22T 25	5.413 5.900		26.529	8
25.150 22.353 22.251 32	5.713 25.900	26.082	26.529	7
10 24.912 25.150 52.353 52.21 52	5.713 25.900	26.082	26.259	6
24.470 24.470 24.098 24.012 25.120 25.323 25.520 25	5.413 25.900	26.085	26.529	5
	5.413 25.800	26.085	26.529	84
	5'713 25'899	26.081	26.258	3
	5.712 25.899	26.081	26.528	2
	5'712 25'899 5'712 25'898	26.080 26.040	26.257 26.256	1 80
	5.411 25.897		26.523	79
	5.410 5.896	26.076	26.221	8
	5.709 25.894	26.073	26.246	7
	5.706 25.890	26.069	26.241	6
5 24.479 24.698 24.910 25.114 25.318 25.514 25	5.703 25.886	26.063	26.234	5
	5.699 25.880	26.022	26.522	74
	5.693 25.873	26.046	26.513	3
	5.685 25.863	26.034	26.188	2
	5.675 25.850 5.662 25.835	26.000	26.180	1 7 0
	5.646 25.816	25.978	26.133	69
	5.626 25.793	25.951	26.103	8
	5.602 25.765	25.920	26.068	7
6 24.446 24.654 24.854 25.046 25.230 25.406 25	5.574 25.733	25.884	26.027	6
	5.241 22.696	25.842	25.981	5
	5.205 5.623	25.795	25.929	64
	5.458 25.604	25.741	25.871	3
	5'408 25'549 5'351 25'487	25.681 25.615	25.806 25.735	2 1
	5.287 25.418	25.241	25.656	60
	5.516 5.345		25.240	59
8 24.572 54.401 54.264 54.403 54.840 55.008 5	5.134 5.58	25.371	25.476	8
7 24'173 24'342 24'502 24'653 24'794 24'927 25	5.051 25.166	25.274	25'375	7
6 24.112 24.576 24.430 24.575 24.710 24.838 24	4.956 25.067		25.266	6
	4.854 24.959	25.057	25'149	5
	4.743 24.843	24.936	25.023	54
	4.623 24.218	24·807 24·669	24.889 24.747	3 2
	4°494 24°585 4°356 24°442	24 009	24 747	1
	4.310 34.391	24 322	24.436	50
	13 12	II	IO	
19 18 17 16 15 14	-5 12	**	10	

$O^{M(5)}$

$2\frac{3}{4}$ per cent.

CONSTANTS.

Constant.	Number.	Logarithm.
i	.027 5	2·439 332 7
(i+i)	1.054 2	0.011 481 8
$(1+i)^{\frac{1}{2}}$	1.013 656 2	0.002 800 0
$(1+i)^{\frac{1}{4}}$	1.006 805 2	0'002 945 5
v	·973 236 o	1.988 218 2
$v^{\frac{1}{2}}$.986 527 3	ī·994 109 1
$v^{\frac{1}{4}}$	·99 3 240 8	ī·997 054 5
ď	·026 764 0	2.427 550 9
δ	.027 128 7	2·433 428 5

 $O^{M(5)}$

COMMUTATION TABLE

28 PER

\boldsymbol{x}	\mathbf{D}_{x}	N_x	S_x	\mathbf{C}_{x}	\mathbf{M}_{x}	R_x	\boldsymbol{x}
10	81 824	2 122 170	44 773 596	488·23	25 025.83	923 849 °02	10
11	79 145	2 040 346	42 651 426	475·16	24 537.60	898 823 °19	11
12	76 552	1 961 201	40 611 080	461·04	24 062.44	874 285 °59	12
13	74 042	1 884 649	38 649 879	448·02	23 601.40	850 223 °15	13
14	71 612	1 810 607	36 765 230	435·36	23 153.38	826 621 °75	14
15	69 260	1 738 995	34 954 623	423.71	22 718 02	803 468·37	15
16	66 983	1 669 735	33 215 628	412.37	22 294 31	780 750·35	16
17	64 778	1 602 752	31 545 893	401.95	21 881 94	758 456·04	17
18	62 642	1 537 974	29 943 141	391.19	21 479 99	736 574·10	18
19	60 575	1 475 332	28 405 167	380.72	21 088 80	715 094·11	19
20	58 573	1 414 757	26 929 835	371.66	20 708.08	694 005.31	20
21	56 633	1 356 184	25 515 078	363.37	20 336.42	673 297.23	21
22	54 754	1 299 551	24 158 894	354.18	19 973.05	652 960.81	22
23	52 935	1 244 797	22 859 343	346.26	19 618.87	632 987.76	23
24	51 172	1 191 862	21 614 546	338.52	19 272.61	613 368.89	24
25	49 464	1 140 690	20 422 684	331.93	18 934.09	594 096 28	25
26	47 808	1 091 226	19 281 994	324.97	18 602.16	575 162 19	26
27	46 203	1 043 418	18 190 768	318.61	18 277.19	556 560 03	27
28	44 648	997 215	17 147 350	313.27	17 958.58	538 282 84	28
29	43 140	952 567	16 150 135	307.54	17 645.31	520 324 26	29
30	41 678	909 427	15 197 568	303.19	17 337 77	502 678.95	30
31	40 259	867 749	14 288 141	298.44	17 034 58	485 341.18	31
32	38 883	827 490	13 420 392	294.13	16 736 14	468 306.60	32
33	37 548	788 607	12 592 902	291.02	16 442 01	451 570.46	33
34	36 252	751 059	11 804 295	287.88	16 150 99	435 128.45	34
35	34 994	714 807	11 053 236	285.07	15 863'11	418 977.46	35
36	33 773	679 813	10 338 429	282.57	15 578'04	403 114.35	36
37	32 586	646 040	9 658 616	281.07	15 295'47	387 536.31	37
38	31 433	613 454	9 012 576	279.80	15 014'40	372 240.84	38
39	30 312	582 021	8 399 122	278.73	14 734'60	357 226.44	39
40	29 222	551 709	7 817 101	278·17	14 455.87	342 491.84	40
41	28 162	522 487	7 265 392	278·09	14 177.70	328 035.97	41
42	27 130	494 325	6 742 905	278·74	13 899.61	313 858.27	42
43	26 125	467 195	6 248 580	279·47	13 620.87	299 958.66	43
44	25 146	441 070	5 781 385	280·54	13 341.40	286 337.79	44
45	24 193	415 924	5 340 315	282.51	13 060 86	272 996·39	45
46	23 263	391 731	4 924 391	284.45	12 778 35	259 935·53	46
47	22 356	368 468	4 532 660	287.17	12 493 90	247 157·18	47
48	21 470	346 112	4 164 192	290.07	12 206 73	234 663·28	48
49	20 605	324 642	3 818 080	293.38	11 916 66	222 456·55	49
50	19 761	304 037	3 493 438	297.06	11 623'28	210 539.89	50
51	18 935	284 276	3 189 401	301.06	11 326'22	198 916.61	51
52	18 127	265 341	2 905 125	305.35	11 025'16	187 590.39	52
53	17 336	247 214	2 639 784	310.35	10 719'81	176 565.23	53
54	16 562	229 878	2 392 570	315.32	10 409'46	165 845.42	54

$$N_x = D_x + D_{x+1} + \dots$$

$$S_x = N_x + N_{x+1} + \dots$$

OM(5)

COMMUTATION TABLE

 $2^{\frac{3}{4}}$ per cent.

\boldsymbol{x}	$\mathbf{D}_{m{x}}$	N_x	S	. C.	\mathbf{M}_{x}	R_x	x
55 56		213 316.	1 949 376.	320.45 325.42	9 773.69	155 435°96 145 341°82	55 56
57 58		182 453		331.31	9 447 97	135 568.13	57 58
59	12 915. 13 616.	168 122.	1 401 288.	336.77 342.09	9 116 [.] 66 8 779 [.] 89	117 003.20	59
60	12 227	141 591'	1 246 782	347.65	8 437.80	108 223.61	60
61	11 552.	129 364.	1 102 191.	352.85	8 090.12	99 785.81	61
62 63	10 241. 10 341.	117 812. 106 923.	975 827° 858 015°	357.53 362.06	7 737 30	91 695 66 83 958 36	62 63
64	9 605.3	96 681.5	751 093.4	365 [.] 74	7 379 [.] 77 7 017 [.] 71	76 578.59	64
65	8 982.5	87 075'9	654 412'2	368 [.] 97	6 651.97	69 560.88	65
66	8 373.1	78 093.4	567 336.3	371.11	6 283.00	62 908 9 1	66
67 68	7 777'9	69 720.3	489 242.9	372'24	5 911.89	56 625 91	67 68
69	7 197°5 6 632°4	61 942°4 54 744°9	419 522.6 357 580.2	372 [.] 43 371.00	5 539.65 5 1 67 .22	50 714°02 45 174°37	69
70	6 083.9	48 112.2	302 835.3	368.51	4 796.55	40 007.15	70
71	5 552.9	42 028.6	254 722.8	363.4	4 428 01	35 210.03	71
72	5 040.2	3 ⁶ 475 [.] 7		357.60	4 064.27	30 782 92	72
73 74	4 548°0 4 076°8	31 435.2		349.50	3 706.67	26 7 18 65	73 74
75	3 628.3	26 887.2		339.36	3 357'17	23 011 98 19 654 81	75
76	3 204.0	22 810'4 19 182'1	95 085 7	313 ¹ 23	2 690.28	16 637.00	76
77	2 805.1	15 978'1		297.17	2 377.43	13 946.42	77
78	2 432.8	13 173.0	59 925.5	279.25	2 080.26	11 568.99	78
79	2 088.5	10 740.3	46 752.5	259.79	1 801.01	9 488 73	79
80 81	1 772·8 1 486·4	8 651.7 6 878.9	36 012·3 27 360·6	238 [.] 95 216 [.] 99	1 541.52 1 305.52	7 687·72 6 146·50	80 81
82	1 229.6	5 392.2	20 481.7	194'35	1 085.58	4 844.23	82
83	1 002'4	4 162.9	15 089.2	171'43	89ŏ·9 3	3 758.95	83
84	804.10	3 160.47	10 926 33	148.80	719.20	2 868.02	84
85	633.77	2 356 37	7 765.86	126.87	570'70	2 148.52	85
86 87	489 [.] 94 370 [.] 90	1 722.60 1 232.66	5 409'49 3 686'89	105 [.] 92 86 [.] 638	443 ^{.8} 3 337 [.] 914	1 577·82 1 133·992	86 87
88	274 ³ 4	861.76	2 454.53	69,119	251.576	796.078	88
89	197.88	587.42	1 592.47	53.693	182.124	544.802	89
90	138.89	3 ⁸ 9 [.] 54	1 005.02	40.653	128.464	362.645	90
91 92	94.219	250.651	615.213	29.674	87.811	234'181	91 92
93	62 ·3 15 39·549	156 [.] 132	364·862 208·730	21.098 14.588	37.039 58.134	146·370 88·233	93
94	24.503	54.268	114.913	9,422 1	22.420 4	51.193 6	94
95	14.133	30.062	60.645	5.842 1	13.328 6	28.442 9	
96	7.9128	15.932 1	30·58o o	3.26 6	7.486 5	15.1143	96
97 98	4°174 4 2°101 4	8.0193	14 [.] 647 9 6 [.] 628 6		3.95 9 9	7·627 8 3·667 9	97 98
99	1'022 6	3 ^{.8} 44 9 1 [.] 743 5	2.783 7	530 8	1.998 6 976 o	1.669 3	99
100	·464 4	720 9		2583	445 2	.693 3	
101	1937	. 256 5	.319 3	1257	.186 9	·248 I	101
102	•062 8	·062 8	.062 8	·061 2	'0 61 2	.061 5	102

 $N_x = D_x + D_{x+1} + \dots$ $S_x = N_x + N_{x+1} + \dots$

 $\mathbf{OM}(5)$ LOGARITHMS AND CO-LOGARITHMS OF D_x , N_x , C_x , M_x $\mathbf{2}_{4\text{ cent.}}^3$

\boldsymbol{x}	$\log \mathrm{D}_x$	$\log N_x$	$\log \mathrm{C}_x$	$\log M_x$	$\operatorname{col} \operatorname{D}_{\boldsymbol{x}}$	$\operatorname{col} \mathbb{N}_x$	col C _x	$\operatorname{col}\mathbf{M}_x$	\boldsymbol{x}
10	4'912 88	6·326 78	2.688 63	4.398 39	5.087 12	7 673 22	3·311 37	5.601 61	10
11	'898 43	·309 70	.676 84	.389 83	.101 57	690 30	·323 16	.610 17	11
12	'883 96	·292 52	.663 74	.381 34	.116 04	707 48	·336 26	.618 66	12
13	'869 48	·275 23	.651 30	.372 94	.130 52	724 77	·348 70	.627 06	13
14	'854 99	·257 82	.638 85	.364 62	.145 01	742 18	·361 15	.635 38	14
15	·840 49	'240 30	.627 07	'356 37	'159 51	7759 70	'372 93	643 63	15
16	·825 97	'222 65	.615 29	'348 20	'174 03	7777 35	'384 71	651 80	16
17	·811 43	'204 87	.604 17	'340 09	'188 57	795 13	'395 83	659 91	17
18	·796 87	'186 95	.592 39	'332 03	'203 13	813 05	'407 61	667 97	18
19	·782 29	'168 89	.580 60	'324 05	'217 71	831 11	'419 40	675 95	19
20	.767 69	150 68	'570 15	'316 14	·232 31	·849 32	'429 85	.683 86	20
21	.753 07	132 32	'560 34	'308 28	·246 93	·867 68	'439 66	.691 72	21
22	.738 42	113 79	'549 22	'300 44	·261 58	·886 21	'450 78	.699 56	22
23	.723 74	1095 10	'539 40	'292 68	·276 26	·904 90	'460 60	.707 32	23
24	.709 03	1076 23	'529 58	'284 94	·290 97	·923 77	'470 42	.715 06	24
25 26 27 28 29	694 29 679 50 664 67 649 80 634 88	.057 17 .037 91 .018 46 5.998 79 .978 90	.521 04 .511 84 .503 26 .495 92 .487 90	*277 24 *269 56 *261 91 *254 27 *246 63	'305 71 '320 50 '335 33 '350 20 '365 12	'942 83 '962 09 '981 54 6'001 21 '021 10	'478 96 '488 16 '496 74 '504 08	'722 76 '730 44 '738 09 '745 73 '753 37	25 26 27 28 29
30	.619 90	958 77	'481 72	'238 99	'380 10	*041 23	'518 28	761 01	30
31	.604 86	938 39	'474 85	'231 33	'395 14	*061 61	'525 15	768 67	31
32	.589 76	917 76	'468 53	'223 65	'410 24	*082 24	'531 47	776 35	32
33	.574 59	896 86	'463 93	'215 95	'425 41	*103 14	'536 07	784 05	33
34	.559 34	875 67	'459 21	'208 20	'440 66	*124 33	'540 79	791 80	34
35	'544 00	·854 19	'454 95	'200 39	'456 00	145 81	545 05	.799 61	35
36	'528 56	·832 39	'451 13	'192 51	'471 44	167 61	548 87	.807 49	36
37	'513 03	·810 26	'448 82	'184 56	'486 97	189 74	551 18	.815 44	37
38	'497 38	·787 78	'446 84	'176 51	'502 62	212 22	553 16	.823 49	38
39	'481 61	·764 94	'445 18	'168 34	'518 39	235 06	554 82	.831 66	39
40	'465 71	'741 71	'444 32	'160 05	534 29	*258 29	555 68	·839 95	40
41	'449 66	'718 08	'444 18	'151 61	550 34	*281 92	555 82	·848 39	41
42	'433 45	'694 01	'445 20	'143 00	566 55	*305 99	554 80	·857 00	42
43	'417 06	'669 50	'446 33	'134 21	582 94	*330 50	553 67	·865 79	43
44	'400 47	'644 51	'448 00	'125 20	599 53	*355 49	552 00	·874 80	44
45	'383 68	'619 01	'451 03	'115 97	.616 32	'380 99	548 97	·884 o3	45
46	'366 66	'592 99	'454 00	'106 47	.633 34	'407 01	546 00	·893 53	46
47	'349 39	'566 40	'458 14	'096 70	.650 61	'433 60	541 86	·903 30	47
48	'331 84	'539 22	'462 50	'086 60	.668 16	'460 78	537 50	·913 40	48
49	'313 98	'511 40	'467 43	'076 15	.686 02	'488 60	532 57	·923 85	49
50	'295 80	'482 93	'472 85	.065 33	'704 20	'517 07	.527 15	'934 67	50
51	'277 26	'453 74	'478 66	.054 09	'722 74	'546 26	.521 34	'945 91	51
52	'258 32	'423 80	'484 80	.042 39	'741 68	'576 20	.515 20	'957 61	52
53	'238 96	'393 07	'491 86	.030 18	'761 04	'606 93	.508 14	'969 82	53
54	'219 11	'361 50	'498 75	.017 43	'780 89	'638 50	.501 25	'982 57	54
L			NT.	l	l	<u> </u>	l		

 $N_x = D_x + D_{x+1} + \dots$ $S_x = N_x + N_{x+1} + \dots$

OM(5) LOGARITHMS AND CO-LOGARITHMS OF D_x , N_x , C_x , M_x $2\frac{3}{4}$ cent.

x	$\log D_x$	$\log N_x$	$\log \mathrm{C}_x$	$\log M_x$	$\operatorname{col} \mathcal{D}_{\boldsymbol{c}}$	col N _x	$\operatorname{col} \mathrm{C}_x$	col M _x	x
55 56	4°198 75 °177 82	5°329 02 °295 60	2·505 76 ·512 84	4'004 07 3'990 06	5.801 25	6.670 98	1	4.000 94	5 5 56
57 58 59	156 28	·261 15	520 23	975 34	843 72	7738 85	'479 77 '472 67	'024 66 '040 16	57 58 59
60 61	.087 33	151 04	534 14	943 49	·888 90 ·912 67	'811 05 '848 96 '888 19	'465 86 '458 86	°056 51	60 61
62 63	.062 68 .037 05 .010 36	'111 81 '071 19 '029 07	547 59 553 31 558 77	'907 96 '888 59 '868 04	'937 32 '962 95 '989 64	928 81	'452 41 '446 69 '441 23	'092 04 '111 41 '131 96	62 63
64 65	3.982 51	4.985 34	.263 17 .266 99	846 20	1.017 49 .046 60	5.014 66 .060 10	'436 83 '433 01	153 80	64 65
66 67	·922 89 ·890 86	·892 61 ·843 36	·569 50 ·570 83	798 17	109 14	107 39	'430 50 '429 17	·201 83 ·228 27	66 67
68 69	·857 18 ·821 67	791 99	569 37	743 48	142 82	208 01	'428 95 '430 63	·256 52 ·286 74	68 69
70 71 72	784 18 744 52 702 47	682 26 62 3 54 562 00	'566 10 '560 80 '553 39	.680 90 .646 21 .608 98	'215 82 '255 48 '297 53	'317 74 '376 46 '438 00	'433 90 '439 20 '446 61	'319 10 '353 79 '391 02	70 71 72
73 74	65782	'497 42 '429 55	543 45 •530 67	·568 98 ·525 97	'342 18 '389 68	·502 58 ·570 45	456 55 469 33	'431 02 '474 03	73 74
75 76	·559 70 ·505 69	'358 13 '282 90	'514 85 '495 75	'479 69 '429 85	'440 30 '494 31	·641 87 ·717 10	'485 15 '504 25	·520 31	75 76
77 78 79	'447 94 '386 11 '319 83	'203 53 '119 68 '031 01	'473 01 '445 99 '414 63	'376 11 '318 12 '255 51	.552 06 .613 89 .680 17	'796 47 '880 32 '968 99	526 99 554 01 585 37	623 89 681 88 744 49	77 78 79
80 81	'248 65 '172 13	3.937 10	'378 31 '336 44	187 87	751 35 827 87	4.062 90	·621 69	·812 13	80 81
82 83	.089 76 .001 02	.431 79 .619 40	·288 58 ·234 08	°035 54 2°949 84	·910 24 ·998 98	.268 21 .380 60	711 42	.964 46 3.020 16	82 83
84 85	801 93	'499 75 '372 24	172 60	.857 o3	3.094 69 198 07 309 86	'500 25 '627 76 '763 82	·827 40 ·896 63	'142 97 '243 59 '352 78	84 85 86
86 87 88	.690 14 .569 26 .438 29	'236 18 '090 84 2'935 39	°024 97 1°937 71 '839 60	647 22 528 80 400 15	'430 74 '561 71	.909 16 3.064 61	.975 o3 2.062 29 .160 40	352 76 371 20 599 85	87 88
89 90	·296 40	·768 95 ·590 55	.729 92 .609 0 9	°260 45	·703 60 ·857 33	'231 05 '409 45	·270 08 ·390 91	'739 55 '891 22	89 90
91 92	1.975 52 794 59	399 07 193 49	'472 37 '324 25	1'943 55 '764 45	205 41	.806 51	'527 63 '675 75	² ·056 45	91 92
93 94	383 87	1'972 28 '734 54	0.974 15	'568 66 '356 99	'402 86 '616 13	2.027 72 .265 46	.845 04 1.025 85	'431 34 '643 01	93 94 95
95 96 97	0.898 33 .620 59	'478 06 '202 27 0'904 14	766 57 547 36 292 54	0.874 28 0.874 68	.849 76 1.101 67 .379 41	.521.94 .797.73 1.095.86	·233 43 ·452 64 ·707 46	1.125 72 .402 32	96 97
98 99	*322 50 *009 69	584 89 241 42	.0 0 9 69 1.724 91	.300 73 1.989 45	·677 50 ·990 31	'415 11 '758 58	.990 31 0.522 09	.699 27 0.010 22	98 99
100 101	7.666 92 .287 16	1.857 88 .409 09	'412 10 '099 28	.648 56 .271 61	0.333 08	590 91	'587 90 '900 72 1'213 53		100 101 102
102	2.798 25	2.798 25		2·786 47	1.501 42	1,501 42	1 213 53	1 213 53	100

$$N_x = D_x + D_{x+1} + ...$$

 $S_x = N_x + N_{x+1} + ...$

 $O^{\mathbf{M}(5)}$

VALUES OF a_x , A_x , P_x , and of \overline{a}_x , \overline{A}_x , \overline{P}_x $2\frac{3}{4}$ per cent.

11	\boldsymbol{x}	a_x	$\mathbf{A}_{m{x}}$	P_x	\overline{a}_x	$\overline{\mathbf{A}}_{m{x}}$	$\overline{\mathrm{P}}_{x}$	\boldsymbol{x}
14	11 12	24.779 24.619	'31 003 '31 433	*01 203 ,	25.276 25.116	'31 430 '31 864	°01 243	10 11 12 13
17	14 15	24.108 24.108	·32 332 ·32 800	°01 279	24.780 24.605	'32 775 '33 250	'01 323 '01 351	14 15
21 22°047 35°910 01°500 23°444 36°400 01°553 22°2°24 36°477 01°537 23°231 36°977 01°592 23°231 36°977 01°592 23°231 37°569 01°633 24°2292 37°663 01°576 23°013 37°569 01°633 24°2292 37°663 01°676 23°013 37°569 01°633 24°2782 38°176 01°675 22°382 38°176 01°675 22°382 38°176 01°675 22°382 38°803 01°767 22°382 38°803 01°767 22°322 39°443 01°767 22°322 39°443 01°767 22°322 39°443 01°767 22°322 39°443 01°767 22°322 39°443 01°767 22°322 39°443 01°767 22°322 39°443 01°767 22°322 39°443 01°961 21°317 41°462 01°921 21°322 39°443 01°961 21°317 42°477 01°978 30°2038 32°2052 43°342 02°2032 22°779 43°6	17 18	23.742 23.552	'33 780 '34 289	.01 362	24'239 24'049	'34 243 '34 75 ⁸	°01 413	16 17 18 19
25 22 061 38 278 01 660 22 558 38 803 01 720 28 26 21 825 38 910 01 705 22 322 39 443 01 767 22 27 21 583 39 559 01 752 22 080 40 100 01 816 22 28 21 335 40 223 01 801 21 832 40 773 01 868 22 29 21 081 40 903 01 852 21 578 41 402 01 978 30 30 20 820 41 600 01 906 21 317 42 170 01 978 31 31 20 554 42 313 01 963 21 051 42 891 02 038 32 32 20 2022 20 23 20 779 43 629 02 100 38 32 20 202 20 203 20 449 44 389 02 105 38 32 20 202 20 203 20 449 44 389 02 105 38 34 19 717 44 551 <	21 22 23	22 [.] 947 22 [.] 734 22 [.] 516	35 910 36 477 37 063	01 500 01 537 01 576	23'444 23'231 23'013	·36 400 ·36 977 ·37 569	°01 553 °01 633	20 21 22 23 24
30 20.820 '41 600 '01 906 21.317 '42 170 '01 978 8 31 20.554 '42 313 '01 963 21.051 '42 891 '02 038 8 32 20.554 '42 313 '01 963 21.051 '42 891 '02 038 8 33 20.002 '43 788 '02 023 20.779 '44 389 '02 165 8 34 19.717 '44 551 '02 150 20.214 '45 162 '02 234 8 35 19.426 '45 330 '02 219 19.923 '45 952 '02 306 8 36 19.129 '46 126 '02 292 19.626 '46 757 '02 382 8 37 18.826 '46 939 '02 368 19.323 '47 579 '02 462 3 38 18.517 '47 767 '02 448 19.014 '48 418 '02 546 3 39 18.201 '48 610 '02 523 18.377 '50 146 '02 729 4	25 26 27 28	22.061 21.825 21.583 21.335	38 278 38 910 39 559 40 223	.01 660 .01 705 .01 752 .01 801	22.558 22.322 22.080 21.832	'38 803 '39 443 '40 100 '40 773	'01 720 '01 767 '01 816 '01 868	25 26 27 28 29
35 19'426 '45 330 '02 219 19'923 '45 952 '02 306 38 36 19'129 '46 126 '02 292 19'626 '46 757 '02 382 38 37 18'826 '46 939 '02 368 19'323 '47 579 '02 462 38 38 18'517 '47 767 '02 448 19'014 '48 418 '02 546 38 39 18'201 '48 610 '02 532 18'698 '49 275 '02 635 38 40 17'880 '49 470 '02 620 18'377 '50 146 '02 729 44 41 17'553 '50 344 '02 714 18'050 '51 033 '02 827 42 42 17'221 '51 233 '02 812 17'718 '51 933 '02 931 43 43 16'883 '52 137 '02 915 17'380 '52 850 '03 041 44 44 16'540 '53 955 '03 025 17'037 '53 781 '03 157 45 45 16'192 '53 987 '03 140 16'689 <	30 31 32	20.820 20.282	'41 600 '42 313 '43 042 '43 788	'01 906 '01 963 '02 023 '02 085	21'317 21'051 20'779 20'499	'42 170 '42 891 '43 629 '44 389	.01 978 .02 038 .02 100 .02 165	30 31 32 33
40 17.880 '49 470 '02 620 18.377 '50 146 '02 729 41 41 17.553 '50 344 '02 714 18.050 '51 033 '02 827 42 42 17.221 '51 233 '02 812 17.718 '51 933 '02 931 43 43 16.883 '52 137 '02 915 17.380 '52 850 '03 041 44 44 16.540 '53 055 '03 025 17.037 '53 781 '03 157 45 45 16.192 '53 987 '03 140 16.689 '54 725 '03 279 46 46 15.839 '54 930 '03 262 16.336 '55 683 '03 409 42 47 15.482 '55 887 '03 391 15.979 '56 651 '03 545 43 48 15.120 '56 854 '03 527 15.617 '57 633 '03 690 44 49 14.755 '57 832 '03 671 15.252 '58 623 '03 844 44 50 14.386 '58 821 '03 984 14.509 <	35 36 37 38	19'426 19'129 18'826 18'517	'45 330 '46 126 '46 939 '47 767	'02 219 '02 292 '02 368 '02 448	19 [.] 923 19 [.] 323 19 [.] 014	'45 952 '46 757 '47 579 '48 418	°02 306 °02 382 °02 462 °02 546	34 35 36 37 38 39
45 16·192 '53 987 '03 140 16·689 '54 725 '03 279 48 46 15·839 '54 930 '03 262 16·336 '55 683 '03 409 48 47 15·482 '55 887 '03 391 15·979 '56 651 '03 545 48 48 15·120 '56 854 '03 527 15·617 '57 633 '03 690 49 49 14·755 '57 832 '03 671 15·252 '58 623 '03 844 49 50 14·386 '58 821 '03 984 14·509 '60 639 '04 179 8 51 14·013 '59 818 '03 984 14·509 '60 639 '04 179 8	40 41 42 43	17.880 17.553 17.221 16.883	'49 470 '50 344 '51 233 '52 137	°02 620 °02 714 °02 812 °02 915	18 [.] 377 18 [.] 050 17 [.] 718 17 [.] 380	'50 146 '51 033 '51 933 '52 850	*02 729 *02 827 *02 931 *03 041	40 41 42 43 44
50 14'386 '58 821 '03 823 14'882 '59 627 '04 007 8 51 14'013 '59 818 '03 984 14'509 '60 639 '04 179 8	45 46 47 48	16·192 15·482 15·120	53 987 54 930 55 887 56 854	°03 140 °03 262 °03 391 °03 527	16.689 16.336 15.979 15.617	54 725 55 683 56 651 57 633	°03 279 °03 409 °03 545 °03 690	45 46 47 48 49
58 13'260 '61 833 '04 336 13'756 '62 682 '04 557 E	51 52 53	14 [.] 386 14 [.] 013 13 [.] 638 13 [.] 260	·58 821 ·59 818 ·60 823 ·61 833	°03 823 °03 984 °04 155 °04 336	14 [.] 882 14 [.] 509 14 [.] 134 13 [.] 756	.59 627 .60 639 .61 656 .62 682	.04 007 .04 179 .04 362 .04 557	50 51 52 53 54

 $0^{M(5)}$

VALUES OF a_x , A_x , P_x , and of \overline{a}_x , \overline{A}_x , \overline{P}_x

28 PER

x	a_x	\mathbf{A}_{x}	\mathbf{P}_{x}	\overline{a}_x	$\overline{\Lambda}_x$	$\overline{\mathbf{P}}_{x}$	æ
55	12.498	63 873	°04 732	12'994	.64 749	·04 983	55
56	12.112	.64 899	'04 948	12.611	.65 788	05 217	56
57	11.431	65 927	.05 178	12.552	.66 830	.05 466	57
58	11.347	.66 955	05 423	11.843	67 872	'05 731	58
59	10.963	67 981	·o5 68 3	11.459	.68 913	·06 014	59
60	10.280	.69 008	·o5 959	11.072	.69 955	.06 316	60
61	10.198	.70 029	·06 254	10.693	.40 991	·06 639	61
62	9.818	·71 046	.06 567	10.313	72 022	·o6 984	62
63	9.440	.72 058	·06 902	9.932	. 73 048	°07 353	63
64	9.062	.73 062	·07 259	9.260	.74 062	·07 747	64
65	8.694	°74 054	·o7 639	9.188	.75 o.74	·08 171	65
66	8.327	.75 038	08 046	8.821	.76 071	08 624	66
67	7.964	.46 010	08 479	8.458	·77 0 55	.00 111	67
68	7.606	·76 966	·08 943	8.099	.78 027	·o9 634	68
69	7.254	.77 909	·09 439	7.747	.78 983	.10 192	69
70	6.908	.78 835	09 969	7'401	79 923	10 799	70
71	6.269	79 743	10 536	7.061	·80 845	11 450	71
72	6.532	80 632	11 142	6.728	81 747	12 150	72
73	5.912	81 500	11 791	6.403	82 629	12 905	73
74	5.252	·82 347	12 486	6.086	.83 490	13 719	74
75	5'287	·83 174	13 230	5.777	·84 328	14 597	75
76	4.982	·83 977	14 027	5.476	·85 144	15 548	76
77	4.696	·84 756	14 879	5.182	85 935	16 575	77
78 79	4'415	.85 509	15 792	4.902	.86 700	17 685 18 888	78
	4'143	·86 234	16 769	4.629	.87 441		79
80	3.880	.86 940	17 814	4.366	.88 155	20 191	80
81	3.628	87 613	18 931	4'113	.88 843	21 602	81
82 83	3.386	·88 263 ·88 883	20 126	3.869	.89 503	23 132	82
84	3.123	·89 479	°21 401 °22 766	3.632	190.138	°24 795 °26 601	83 84
1 1	2.930			3.411	90 746		
85	2.718	'90 049	24 220	3.197	91 326	28 563	85
86 87	2.216	90 590	25 766	2'994	91 879	30 692	86
88	2°323 2°141	91 105	.27 413 .29 158	2.499 2.615	'92 406 '92 906	33 010 35 527	87 88
89	1.969	.91 593 .92 05 6	31 010	2'440	92 380	33 327 38 2 66	89
90	1.802				93 831	41 263	90
91	1.652	'92 493 '92 903	32 978	2°274 2°118	'94 253	41 203	91
92	1.206	92 903	.35 033 .37 236	1,969	94 253 94 658	44 493 48 067	92
93	1'372	93 653	37 230	1.833	95 028	51 851	93
94	1.545	93 998	41 923	1.699	95 390	.26 131	94
95	1'127	94 308	44 333	1.281	95 712	60 550	95
96	1.013	'94 613	'46 990	1.463	95 032	65 649	96
97	921	94 862	49 379	1.366	96 294	70 499	97
98	·830	.95 111	.21 980	1.570	96 556	·76 o58	98
99	.705	'95 447	.55 980	1.139	.96 909	85 053	99
100	.552	·95 861	·61 756	. 981	·97 339	99 242	100
101	'324	.96 483	72 865	.746	97 975	1'31 246	101
102	.000	97 324	97 324	415	98 874	2.38 234	102

 $\mathbf{O}^{\mathbf{M}(5)}$

LOGARITHMS OF a_x , A_x , P_x , AND OF \overline{a}_x , \overline{A}_x , \overline{P}_x 2\frac{3}{4} Per

\boldsymbol{x}	$\log a_x$	$\log A_x$	$\log \mathrm{P}_x$	$\log \overline{a}_x$	$\log \overline{\mathbf{A}}_x$	$\log \overline{\overline{\mathrm{P}}}_x$	x
10	1'413 90	7.485 51	2.071 61	1'405 40	1.491 42	2.086 00	10
11	'411 27	.491 40	.080 13	'402 71	.497 34	.094 65	11
12	'408 56	.497 38	.088 82	'399 95	.503 30	.103 36	12
13	'405 75	.503 46	.097 71	'397 07	.509 39	.112 30	13
14	'402 83	.509 63	.106 80	'394 10	.515 54	.121 43	14
15 16 17 18 19	399 81 396 68 393 44 390 08 386 60	515 88 522 23 528 66 535 16 541 76	'116 07 '125 55 '135 22 '145 08 '155 16	391 02 387 83 384 51 381 10	521 79 528 12 534 57 541 05 547 65	130 75 140 29 150 05 159 96 170 12	15 16 17 18 19
20	382 99	.548 45	165 46	'373 ⁸ 5	554 34	'180 50	20
21	379 25	.555 21	175 96	'37° °3	561 10	'191 06	21
22	375 37	.562 02	186 65	'366 °7	567 93	'201 86	22
23	371 36	.568 94	197 58	'361 97	574 83	'212 85	23
24	367 20	.575 91	208 71	'357 73	581 79	'224 07	24
25	362 88	.582 95	'220 07	'353 30	.588 87	'235 58	25
26	358 41	.590 06	'231 65	'348 73	.595 97	'247 24	26
27	353 79	.597 24	'243 45	'344 00	.603 14	'259 14	27
28	348 99	.604 47	'255 48	'339 09	.610 37	'271 28	28
29	344 02	.611 75	'267 73	'334 01	.617 65	'283 64	29
30	338 87	619 09	'280 22	328 73	625 00	'296 27	30
31	333 53	626 47	'292 94	323 27	632 37	'309 10	31
32	328 00	633 89	'305 89	317 62	639 78	'322 16	32
33	322 27	641 36	'319 09	311 73	647 28	'335 54	33
34	316 33	648 86	'332 53	305 65	654 77	'349 12	34
35	'310 19	.656 39	346 20	299 35	662 30	'362 95	35
36	'303 83	.663 95	360 12	292 83	669 85	'377 01	36
37	'297 23	.671 53	374 30	286 07	677 42	'391 34	37
38	'290 40	.679 13	388 73	279 07	685 01	'405 93	38
39	'283 33	.686 73	403 40	271 80	692 63	'420 83	39
40	*276 00	.694 34	'418 34	·264 27	700 24	435 96	40
41	*268 42	.701 95	'433 53	·256 48	707 85	451 37	41
42	*260 56	.709 55	'448 99	·248 41	715 44	467 03	42
43	*252 44	.717 15	'464 71	·240 05	723 05	483 00	43
44	*244 04	.724 73	'480 69	·231 39	730 63	499 23	44
45	'235 33	732 29	7496 96	222 43	738 19	515 75	45
46	'226 33	739 81	7513 48	213 15	745 72	532 58	46
47	'217 01	747 31	7530 30	203 55	753 21	549 65	47
48	'207 38	754 76	7547 38	193 60	760 67	567 07	48
49	'197 42	762 17	7564 75	183 33	768 07	584 75	49
50	187 13	769 53	.582 40	172 66	775 44	602 79	50
51	176 48	776 83	.600 35	161 64	782 75	621 11	51
52	165 48	784 07	.618 59	150 27	789 98	639 72	52
53	154 11	791 22	.637 11	138 49	797 14	658 65	53
54	142 39	798 32	.655 93	126 33	804 23	677 90	54

 $O^{\mathbf{M}(5)}$

LOGARITHMS OF a_x , A_x , P_x , and of \overline{a}_x , \overline{A}_x , \overline{P}_x

 $2^{rac{3}{4}}$ per

\boldsymbol{x}	$\log \mathbf{a}_x$	$\log A_x$	$\log P_x$	$\log \overline{a}_x$	$\log \overline{\mathbf{A}}_{x}$	$\log \overline{\mathrm{P}}_{x}$	x
55	1'130 27	T·805 32	2.675 05	1'113 74	1.811 23	<u>2</u> ·697 49	55
56	'117 78	812 24	694 46	100 75	818 15	2 097 49	1 6.7.753
57	104 87	819 06	714 19	'087 32	824 97	717 40	56
58	'091 56	825 78	734 22		024 97	737 65	57
59	'077 85	832 39	754 54	073 46	·831 69 ·838 30	758 22	58 59
60	'063 71	.838 90	775 19	'044 34	844 82	800 48	60
61	'049 13	845 28	796 15	'029 10	851 20	822 10	61
62	*034 14	851 54	817 40	'013 39	857 47	844 08	62
63	'018 71	857 68	838 97	0.002 12	863 61	866 44	63
64	'002 83	863 69	·86o 86	980 46	-869 61	.889 16	64
65	0.986 20	*869 55	·883 o5	963 23	875 49	912 26	65
66	'969 72	1875 28	905 56	945 50	881 22	935 72	66
67	952 50	·88o 87	928 37	927 25	·886 8o		67
68	'934 81	.886 30	951 49	908 46	892 24	959 55	68
69	916 67	891 59	974 92	889 14	897 53	1.008 30	69
70	·898 o8	896 72	'998 64	869 27	902 67	'033 38	70
71	879 02	.901 69	1'022 67	.848 86	907 65	'058 81	71
72	*859 53	'906 51	'046 98	827 91	912 47	'084 58	72
73	839 60	91116	'071 56	806 39	'917 13	110 76	73
74	819 23	915 65	'096 42	'784 31	921 63	137 32	74
75	798 43	.919 99	121 56	'761 69	925 97	164 26	75
76	777 21	'924 16	146 95	738 49	930 15	191 67	76
77	755 59	928 17	172 58	71472	934 17	'219 45	77
78	'733 57	932 01	198 44	690 41	938 02	247 61	78
79	711 18	935 68	'224 50	665 52	'941 72	276 19	79
80	688 45	939 22	250 77	640 09	945 25	'305 16	80
81	665 39	942 57	277 18	614 13	'948 62	334 49	81
82	'642 03	'945 78	'303 75	'587 62	951 84	364 21	82
83	618 38	948 82	'330 44	'560 54	954 91	394 36	83
84	'594 44	951 72	357 28	532 92	957 83	424 90	84
85	'570 31	954 48	'384 17	'504 80	960 59	'455 80	85
86	'546 04	957 08	'411 04	'476 19	'963 22	'487 03	86
87	521 58	959 54	'437 96	447 05	965 70	'518 65	87
88	'497 10	.961 86	'464 76	'417 49	968 04	.550 56	88
89	472 55	964 05	'491 50	'387 44	970 25	582 81	89
90	*447 88	'966 11	'518 23	'356 79	972 35	615 56	90
91	423 55	·968 o3	544 48	326 01	974 30	648 29	91
92	.398 90	'969 86	570 96	'294 31	'976 16	681 85	92
93	375 14	971 52	*596 38	'263 09	977 85	714 76	93
94	350 67	973 12	622 45	'230 30	'979 50	'749 20	94
95	327 82	974 55	646 73	198 85	980 97	'782 11	95
96	'303 94	975 95	672 01	165 19	982 42	817 23	96
97	'283 55	'977 09	693 54	135 42	983 60	.848 18	97
98	'262 39	978 23	'715 84	103 63	984 78	.881 14	98
99	'231 73	979 76	'748 03	·o56 68	986 36	929 69	99
.00	.100 06	981 64	'790 68	1.991 59	'988 29	996 70	100
101	121 93	'984 45	862 52	·873 o3	'991 12	0.118 10	101
102	,000 00	'988 22	988 22	.618 08	'995 08	377 00	102

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$O^{M(5)}$

3 PER CENT.

CONSTANTS.

Constant	Number	Logarithm
$ \begin{array}{c} i \\ (1+i) \\ (1+i)^{\frac{1}{2}} \\ (1+i)^{\frac{1}{2}} \\ v \\ v^{\frac{1}{2}} \end{array} $	'03 1'03 1'014 889 2 1'007 417 1 '970 873 8 '985 329 3 '992 637 5	2'477 121 3 0'012 837 2 0'006 418 6 0'003 209 3 T'987 162 8 T'993 581 4
d 8	°029 558 8	7·996 790 7 2·464 284 0 2·470 686 8

OM(5)

COMMUTATION TABLE

PER CENT.

x	$\mathbf{D}_{m{x}}$	N_x	S_x	\mathbf{C}_{x}	\mathbf{M}_{x}	R_x	x
10	79 859	1 974 033	40 386 800	475'35	22 363.10	797 721'49	10
11	77 058	1 894 174	38 412 767	461'51	21 887.75	775 358'39	11
12	74 352	1 817 116	36 518 593	446'70	21 426.24	753 470'64	12
13	71 740	1 742 764	34 701 477	433'03	20 979.54	732 044'40	13
14	69 217	1 671 024	32 958 713	419'78	20 546.51	711 064'86	14
15	66 781	1 601 807	31 287 689	407.55	20 126.73	690 518·35	15
16	64 429	1 535 026	29 685 882	395.68	19 719.18	670 391·62	16
17	62 156	1 470 597	28 150 856	384.74	19 323.50	650 672·44	17
18	59 961	1 408 441	26 680 259	373.54	18 938.76	631 348·94	18
19	57 841	1 348 480	25 271 818	362.66	18 565.22	612 410·18	19
20	55 794	1 290 639	23 923 338	353.17	18 202·56	593 844.96	20
21	53 816	1 234 845	22 632 699	344.45	17 849·39	575 642.40	21
22	51 904	1 181 029	21 397 854	334.92	17 504·94	557 793.01	22
23	50 057	1 129 125	20 216 825	326.64	17 170·02	540 288.07	23
24	48 273	1 079 068	19 087 700	318.56	16 843·38	523 118.05	24
25	46 548	1 030 795	18 008 632	311.60	16 524.82	506 274.67	25
26	44 881	984 247	16 977 837	304.33	16 213.22	489 749.85	26
27	43 269	939 366	15 993 590	297.65	15 908.89	473 536.63	27
28	41 711	896 097	15 054 224	291.95	15 611.24	457 627.74	28
29	40 204	854 386	14 158 127	285.92	15 319.29	442 016.50	29
30	38 747	814 182	13 303 741	281'19	15 033'37	426 697.21	30
31	37 338	775 435	12 489 559	276'11	14 752'18	411 663.84	31
32	35 974	738 097	11 714 124	271'46	14 476'07	396 911.66	32
33	34 655	702 123	10 976 027	267'95	14 204'61	382 435.59	33
34	33 377	667 468	10 273 904	264'41	13 936'66	368 230.98	34
35 36 37 38 39	32 141 30 944 29 784 28 660 27 571	634 091 601 950 571 006 541 222 512 562	9 606 436 8 972 345 8 370 395 7 799 389 7 258 167	261.19 258.27 256.58 254.20	13 672.25 13 411.06 13 152.79 12 896.51 12 642.01	354 294'32 340 622'07 327 211'01 314 058'22 301 161'71	35 36 37 38 39
40 41 42 43 44	26 515 25 491 24 497 23 533 22 596	484 991 458 476 432 985 408 488 384 955	6 745 605 6 260 614 5 802 138 5 369 153 4 960 665	251.48 251.13 251.14 251.48	12 389'10 11 886'20 11 635'11 12 383'98	288 519'70 276 130'60 263 993'29 252 107'09 240 471'98	40 41 42 43 44
45	21 687	362 359	4 575 710	252.63	11 132.50	229 08 8·00	45
46	20 802	340 672	4 213 351	253.75	10 879.87	217 955·50	46
47	19 943	319 870	3 872 679	255.55	10 626.12	207 075·63	47
48	19 106	299 927	3 552 809	257.51	10 370.57	196 449·51	48
49	18 292	280 821	3 252 882	259.81	10 113.06	186 078·94	49
50	17 500	262 529	2 972 061	262.43	9 853 ²⁵	175 965.88	50
51	16 728	245 029	2 709 532	265.33	9 590 ⁸²	166 112.63	51
52	15 975	228 301	2 464 503	268.45	9 3 ² 5 ⁴ 9	156 521.81	52
53	15 241	212 326	2 236 202	272.19	9 057 ⁰ 4	147 196.32	53
54	14 525	197 085	2 023 876	275.87	8 784 ⁸ 5	138 139.28	54

 $N_x = D_x + D_{x+1} + \dots$ $S_x = N_x + N_{x+1} + \dots$

 $O^{M(5)}$

COMMUTATION TABLE

3 PER CENT.

\boldsymbol{x}	D_x	N_x	S_x	$\mathbf{C}_{m{x}}$	\mathbf{M}_{x}	R_x	x
55 56	13 826.	182 260.	1 826 791° 1 644 231°	283.59	8 508·98 8 229·30	129 354.43 120 845.45	55 56
57 58	12 477. 11 826.	155 590°	1 475 497°	287.75 291.78	7 945 [.] 7 ¹ 7 657 [.] 96	112 616.15 104 670.44	57 58
59	11 100.	131 287	1 176 794	295.68	7 366·18	97 012.48	59
60	10 568.	120 097	1 045 507.		7 070.20	89 646.30	60
61 62	9 960 [.] 9 9 367 [.] 2	109 528·8 99 567·9	925 409°7 815 880°9		6 770°75. 6 467°25	82 575 [.] 80 75 805 [.] 05	61 62
63	8 787.6	90 200.7		309,01	6 160.47	69 337.80	63
64	8 221.8	81 413.1	626 112.3	312.30	5 850.26	63 177.33	64
65 66	7 670°0 7 132°3	73 191'3 65 521'3	544 699°2 471 507°9	314.39 312.35	5 538·26 5 223·97	57 326.77 51 788.51	65 66
67	6 609.2	58 389.0	405 986.6		3 223 91 4 908·62	46 564 54	67
68	6 101.3	51 779.8	347 597 6	314'94	4 593.08	41 655 92	68
69	5 608.5	45 678.6	,		4 278.14	37 062.84	69
70 71	5 132·2 4 672·9	40 070'I 34 937'9	210 069.1 210 069.1	309 [.] 86 305 [.] 36	3 965°17 3 655°31	32 784.70 28 819.53	70 71
72	4 231.4	30 2650			3 349 95	25 164.52	72
73	3 808.7	26 033.6	144 866.2	291'98	3 o5o·48	21 814.27	73
74	3 405.8	22 224.9		282.82	2 758.50	18 763.79	74
75 76	3 023·8 2 663·7	18 819.1	96 607.7	272.05	2 475.68	16 005.29	75 76
77	2 326.4	15 795.3		259°71 245°86	2 203.63 1 943.92	13 529 61 11 325 98	77
78	2 012.8	10 802.5		230.47	1 698.06	9 382.06	78
79	1 723.7	8 792.4	38 056.2	213'89	1 467.59	7 684.00	79
80	1 459.6	7 068.7	29 264'I	196.56	1 253.70	6 216.41	80
81 82	1 220.8 1 007.4	5 609°1 4 388°3	22 195'4 16 586'3	177'79 158 ' 85	879.65	4 962.71 3 905.27	81 82
83	819.56	3 380.87	12 197 95	139.48	720.80	3 025 62	83
84	655.62	2 561.61	8 817.08	121'03	581.03	2 304.82	84
85	515.20	1 905.99	6 255.47	102.95	459'99	1 723.80	85
86	397.54	1 390.49	4 349 48	85.734	357.037	1 263.812	86 87
88	300.55 300.55	992 · 95 692·73	2 958 99 1 966 04	69·958 55·676	271'303 201'345	906·775 635·472	88
89	159.39	471.51	1 273.31	43'146	145.669	434.152	89
90	111.60	311.82	802.10	32.288	102.23	288.458	90
91 92	75.766	200'215	490'279	23.729	69.935	185.935	91
93	49.831 31.249	124 449 74 618	290°064 165°615	16.830	46°206 29°376	116'000 69'794	92 93
94	19.590	43.069	90'997	7.479 7	18.002 8		
95	11.550	23.800	47.928	4.626 5	10'526 1	22.4125	95
96	6.566 3	12.288 8	24'119 2	2.786 0	5.899 6	11.886.4	96
97 98	3°297 7 1°656 1	6·322 5 3·024 8	11.530 4 5.507 9				
99	803 9		2.183 I	4163	764 1	1'305 2	
100	364 2	·564 8			347 8		
101	.121 6	.200 6	249 6	.098 1	145 7	193 3	101
102	.049 0	*049 0	<u> </u>	·047 6	·047 6	· 047 6	102

 $\mathbf{N}_x = \mathbf{D}_x + \mathbf{D}_{x+1} + \dots$ $\mathbf{S}_x = \mathbf{N}_x + \mathbf{N}_{x+1} + \dots$

OM(5) LOGARITHMS AND CO-LOGARITHMS OF Dx, Nx, Cx, Mx 3 cent.

x	$\log D_x$	$\log N_x$	$\log \mathrm{C}_x$	$\log M_x$	$\operatorname{col} \operatorname{D}_{x}$	col N _x	$\operatorname{col} \mathrm{C}_x$	$\operatorname{col} \mathbf{M}_x$	\boldsymbol{x}
10 11 12 13 14	4'902 32 '886 82 '871 29 '855 76 '840 21	6'295 36 '277 42 '259 38 '241 24 '222 99	2.677 02 .664 18 .650 02 .636 52 .623 02	4'349 53 '340 20 '330 94 '321 80 '312 74	5.097 68 .113 18 .128 71 .144 24 .159 79	7·704 64 ·722 58 ·740 62 ·758 76 ·777 01	3'322 98 '335 82 '349 98 '363 48 '376 98	5.650 47 .659 80 .669 06 .678 20 .687 26	10 11 12 13 14
15 16 17 18 19	·824 65 ·809 08 ·793 49 ·777 87 ·762 24	204 61 186 12 167 49 148 74 129 85	'610 18 '597 34 '585 17 '572 33 '559 50	303 77 294 88 286 08 277 35 268 70	'175 35 '190 92 '206 51 '222 13 '237 76	795 39 813 88 832 51 851 26 870 15	389 82 402 66 414 83 427 67 440 50	'696 23 '705 12 '713 92 '722 65 '731 30	15 16 17 18 19
20 21 22 23 24	746 59 730 91 715 20 699 47 683 70	'091 61 '091 61 '072 26 '052 74 '033 05	547 98 537 13 524 95 514 07 503 20	260 13 251 62 243 16 234 77 226 43	253 41 269 09 284 80 300 53 316 30	927 74 947 26 966 95	'452 02 '462 87 '475 05 '485 93 '496 80	739 87 748 38 756 84 765 23 773 57	20 21 22 23 24 25
25 26 27 28 29 30	652 06 636 18 620 25 604 27	5'993 11 '972 84 '952 36 '931 66	493 00 483 34 473 70 465 31 456 24	209 87 201 64 193 44 185 24	347 94 363 82 379 75 395 73	6.006 89 027 16 047 64 068 34	516 66 526 30 534 69 543 76	790 13 798 36 806 56 814 76	26 27 28 29 30
31 32 33 34 35	572 15 555 99 539 76 523 45	·889 55 ·868 12 ·846 41 ·824 43	441 08 433 70 428 05 422 27 416 96	168 86 160 65 152 43 144 16	427 85 444 01 460 24 476 55	110 45 131 88 153 59 175 57	.558 92 .566 30 .571 95 .577 73 .583 04	·831 14 ·839 35 ·847 57 ·855 84 ·864 16	31 32 33 34 35
36 37 38 39 40	'49° 57 '473 98 '457 28 '44° 45 '423 49	779 56 756 64 733 38 709 74 685 73	'412 08 '408 71 '405 68 '402 96 '401 04	127 46 119 01 110 48 101 82	509 43 526 02 542 72 559 55 576 51	'220 44 '243 36 '266 62 '290 26 '314 27	587 92 591 29 594 32 597 04 598 96	872 54 880 99 889 52 898 18	36 37 38 39 40
41 42 43 44 45	'406 39 '389 12 '371 67 '354 04 '336 19	661 32 636 48 611 18 585 41	399 86 399 82 399 89 400 51 402 48	084 12 075 05 065 77 056 29	'593 61 '610 88 '628 33 '645 96	338 68 363 52 388 82 414 59	600 14 600 18 600 11 599 49	915 88 924 95 934 23 943 71	41 42 43 44 45
46 47 48 49 50	318 11 299 78 281 18 262 27	532 33 504 97 477 02 448 43 419 18	'404 40 '407 48 '410 79 '414 66 '419 02	036 62 026 37 015 80 004 88 3.993 58	.681 89 .700 22 .718 82 .737 73 756 97	'467 67 '495 03 '522 98 '551 57 '580 82		963 38 973 63 984 20 995 12 4006 42	46 47 48 49 50 51
51 52 53 54	'223 43 '203 44 '183 02 '162 12	389 22 358 51 327 01 294 65	'423 78 '428 87 '434 87 '440 70	981 85 969 67 956 98 943 74	776 57 796 56 816 98 837 88	.610 78 .641 49 .672 99 .705 35	576 22 571 13 565 13 559 30	018 15 030 33 043 02 056 26	52 53 54

 $N_x = D_x + D_{x+1} + \dots$ $S_x = N_x + N_{x+1} + \dots$

 $\mathbf{OM}(5)$ logarithms and co-logarithms of D_x , N_x , C_x , M_x $\mathbf{3}_{cent.}^{PER}$

x	$\log D_x$	$\log N_x$	$\log C_x$	$\log M_x$	$\operatorname{col} \operatorname{D}_{x}$	col N _x	col Cx	$\operatorname{col} \mathbf{M}_x$	x
55 56	4°140 70 °118 72	5.261 41	2.446 66 .452 69	3 ⁹²⁹ 88	5·859 30 ·881 28	6.738 59 .772 80	3.553 34 .547 31	4.070 12 .084 64	55 56
57	·096 i 3	191 98	459 02	'900 13	·903 87	·808 o2	540 98	'099 87	57
58	.072 85	155 68	'465 06	.884 12	927 15	'844 32	534 94	115 88	58
59	· 04 8 83	118 22	·470 81	.867 24	.951 17	·881 78	·52 9 19	132 76	59
60	'024 01	·079 53	476 76	.849 45	_'9 7 5 9 9	920 47	523 24	150 55	60
61	3.998 30	·039 53	'482 16	830 64	1.001 10	-960 47	.517 84	.169 36	61
62	97161	4.998 12	'486 82	810 72	028 39	5.001 88	513 18	189 28	62
63 64	943 87	'955 21 '910 69	'491 23	.789 62 .767 20	·056 13	°044 79	.508 77	'210 38 '232 80	63
	91497		494 57			4	505 43		64
65	·884 80	·864 46 ·816 38	497 33	'74 3 38 '718 00	115 20 146 77	135 54 183 62	502 67	°256 62 °282 00	65
66 67	·853 23 ·820 15	766 33	'498 79 '499 06	690 96	179 85	233 67	'501 21 '500 94	309 04	66
68	'785 41	714 16	498 23	.662 11	214 59	285 84	501 77	337 89	67 68
69	·748 85	659 72	495 50	631 25	251 15	340 28	504 50	368 75	69
70	71031	602 82	491 16	·598 26	289 69	397 18	508 84	401 74	70
71	669 58	543 30	484 81	562 92	330 42	456 70	515 19	437 08	71
72	626 49	'480 94	476 35	525 04	373 51	519 06	523 65	474 96	72
73	·580 78	415 53	465 35	484 37	419 22	.584 47	534 65	515 63	73
74	532 22	.346 84	451 51	'440 67	467 78	653 16	.548 49	559 33	74
75	·48o 55	·274 60	434 64	393 70	'519 45	725 40	.565 36	606 30	75
76	425 48	198 53	414 48	343 14	574 52	801 47	585 52	·656 86	76
77	·366 68	118 32	·390 69	· 28 8 68	633 32	· 881 68	.609 31	711 32	77
78	·303 79	·0 33 63	.362 62	229 95	.696 21	966 37	637 38	770 05	78
79	·236 45	3'944 11	.330 19	.199 91.	·763 55	4.052 89	.669 81	·833 39	79
80	164 22	·849 34	.292 83	.098 19	835 78	150 66	.707 17	.901 81	80
81	·086 _. 64	748 89	249 89	024 25	.913 36	.521 11	.420 11	_'975 75	81
82	.003 55	642 30		2,044 31	-996 78	357 70		3.052 69	82
83	2.013 42	·529 03	145 43	857 81	3.086 28	470 97	·854 57	142 19	83
84	·816 65	.408 21	·082 90	'764 19	.183 32	.591 49	'917 10	.235 81	84
85	712 22	280 12	.015 91	662 75	287 78	71988	-987 39	337 25	85
86	599 38	143 17	1.033 12	'552 71	'400 62	856 83	2.066 85	'447 29 '566 55	86
87 88	477 44	2°996 93 °840 56	·844 84 ·745 67	433 45	·522 56 ·654 59	159 44	'155 16 '254 33	.566 55 .696 06	87 88
89	'345 41 '202 47	673 21	634 94	'303 94 '16 3 36	797 53	326 79	·365 o6	·836 64	89
	.047 68	493 90	513 05	010 82	952 32	506 10	'486 95	.989 18	90
90 91	1.879 48	301 50	375 28	1.844 69	2.150 25	698 50	624 72	2.122 31	90
92	697 50	094 99	226 09	664 70	302 50	905 01	773 91	335 30	92
93	'498 99	1.872 84	°55 75	'467 99	.201 01	2.127 16	944 25	532 01	93
94	·284 66		0.873 89	255 41	715 34	365 84	1.150 11	744 59	94
95	·049 98	376 74	665 25	'022 27	950 02	623 26	334 75	'977 73	95
	0.494 01	.099 98		0.770 82	1.505 99	900 02		1.229 18	96
97		0.800 89	.189 11	493 26	·481 78	1.166 11	.810 89	.506 74	97
98	_'219 07	·48o 70	1.002 21	°195 35	·78o 93	1 0 / 0	0.004 20	804 65	98
99	1.002 51	.136 31	619 37	1.883 12	oʻo94 7 9	.863 69	·380 63	0.116 82	99
100	·561 38	ī·751 89	305 50	541 33	·438 62	0.548 11	694 50	1	100
101	.18o 26	_'302 33	2.991 63	163 46	·819 44	697 67	1.008 34	,	101
102	2·690 60	<u>2</u> .690 60	677 77	2.677 77	1.300 40	1.309 40	322 23	1.322 23	102

 $N_x = D_x + D_{x+1} + \dots$ $S_x = N_x + N_{x+1} + \dots$

 $O^{M(5)}$

VALUES OF a_x , A_x , P_x , and of \overline{a}_x , \overline{A}_x , \overline{P}_x

3 PER

$oldsymbol{x}$	a_x	A _x .	P_x	\bar{a}_x	$\overline{\mathbf{A}}_{m{x}}$	$\overline{\mathrm{P}}_{x}$	x
10	23.719	·28 003	'01 133	24.216	·28 420	'01 174 '01 197 '01 222 '01 248 '01 274	10
11	23.581	·28 404	'01 156	24.078	·28 828		11
12	23.440	·28 817	'01 179	23.937	·29 245		12
13	23.293	·29 244	'01 204	23.790	·29 680		13
14	23.142	·29 685	'01 230	23.639	·30 126		14
15	22.986	'30 138	01 257	23'483	30 587	'01 303	15
18	22.825	'30 606	01 285	23'322	31 063	'01 332	16
17	22.659	'31 088	01 314	23'156	31 554	'01 363	17
18	22.490	'31 585	01 345	22'987	32 053	'01 394	18
19	22.314	'32 097	01 377	22'811	32 573	'01 428	19
20	22'132	'32 624	'01 410	22.629	'33 111	'01 463	20
21	21'946	'33 167	'01 445	22.443	'33 661	'01 500	21
22	21'754	'33 726	'01 482	22.251	'34 229	'01 538	22
23	21'557	'34 300	'01 521	22.054	'34 811	'01 578	23
24	21'354	'34 892	'01 561	21.851	'35 411	'01 621	24
25	21'145	35 501	'01 603	21.642	36 029	°01 665	25
26	20'931	36 125	'01 647	21.428	36 661	°01 711	26
27	20'710	36 767	'01 694	21.207	37 315	°01 760	27
28	20'484	37 427	'01 742	20.981	37 983	°01 810	28
29	20'251	38 104	'01 793	20.748	38 671	°01 864	29
30	20°013	38 799	01 846	20'510	'39 375	'01 920	30
31	19°768	39 510	01 902	20'265	'40 099	'01 979	31
32	19°517	40 240	01 961	20'014	'40 841	'02 041	32
33	19°261	40 989	02 023	19'758	'41 598	'02 105	33
34	18°998	41 755	02 088	19'495	'42 375	'02 174	34
35	18·728	'42 538	'02 156	19.225	'43 173	'02 246	35
36	18·453	'43 340	'02 228	18.950	'43 986	'02 321	36
37	18·172	'44 160	'02 303	18.669	'44 817	'02 401	37
38	17·884	'44 999	'02 383	18.381	'45 668	'02 485	38
39	17·591	'45 853	'02 466	18.088	'46 534	'02 573	39
40 41 42 43 44	16.036 16.036	'46 725 '47 613 '48 521 '49 442 '50 379	°02 555 °02 647 °02 745 °02 848 °02 957	17.788 17.483 17.172 16.855 16.533	'47 421 '48 322 '49 242 '50 179 '51 130	.02 666 .02 764 .02 868 .02 977 .03 093	40 41 42 43 44
45	15'709	'51 333	'03 072	16·206	'52 097	'03 215	45
46	15'377	'52 301	'03 194	15·874	'53 078	'03 344	46
47	15'040	'53 283	'03 322	15·536	'54 077	'03 481	47
48	14'698	'54 278	'03 458	15·194	'55 088	'03 626	48
49	14'352	'55 285	'03 601	14·848	'56 111	'03 779	49
50 51 52 53 54	14.002 13.648 13.291 12.569	56 305 57 335 58 375 59 424 60 481	°03 753 °03 914 °04 085 °04 266 °04 457	14'498 14'144 13'787 13'427 13'065	.57 146 .58 192 .59 247 .60 311 .61 381	'03 942 '04 114 '04 297 '04 492 '04 698	50 51 52 53 54

 $O^{\mathbf{M}(5)}$

VALUES OF a_x , A_x , P_x , and of \bar{a}_x , \bar{A}_x , \bar{P}_x

3 per

\boldsymbol{x}	a_x	$\mathbf{A}_{m{x}}$	P_{x}	$ar{a}_{m{x}}$	$\overline{\mathbf{A}}_{x}$	$\overline{\mathbf{P}}_{x}$	\boldsymbol{x}
55	12.504	·61 543	·04 661	12'700	·62 460	°04 918	55
56	11.838	62 609	.04 877	12.334	63 542	05 152	56
57	11.470	·63 68o	'05 107	11.966	64 630	'05 401	57
58	11.101	64 755	·05 351	11.296	65 724	·o5 668	58
59	10.435	65 828	.02 911	11.552	·66 814	·05 951	59
60	10.364	·66 902	.05 887	10.829	·67 902	·06 253	60
61	9.996	67 974	·06 182	10.491	·68 990	·06 576	61
62	9.629	·69 041	·06 495	10.154	.40 042	·06 922	62
63	9.265	.40 102	06 830	9.759	71 153	07 291	63
64	8.902	·71 159	·07 18 6	9.396	72 226	·07 68 7	64
65	8.542	72 207	.07 567	9.036	·73 289	.08 110	65
66	8.184	73 244	·07 973	8.680	74 342	·08 564	66
67	7 ^{.8} 34	·74 2 69	08 407	8:328	75 383	.09 052	67
68	7.487	75 284	°08 870	7:980	'76 411	·09 575	68
69	7'144	·76 278	.09 366	7.637	·77 425	.10 138	69
70	6.808	77 259	·09 896	7:300	.78 422	10 743	70
71	6.477	.78 224	10 462	6.969	'79 401	11 394	71
72	6.125	·79 168	11 069	6.644	·80 362	12 096	72
73	5.835	·80 092	11718	6.326	.81 300	12 851	73
74	5.26	.80 993	12 412	6.016	.82 217	.13 666	74
75	5.224	·81 875	.13 122	5.413	.83 112	14 547	75
76	4.930	82 729	.13 521	5.419	·83 982	15 498	76
77	4.645	83 560	14 803	5.133	84 828	16 526	77
78	4.368	·84 365	15 715	4.856	·85 647	17 638	78 79
79	4'101	.85 145	16 692	4.288	·86 440	18 842	
80	3.843	.85 895	17 736	4.329	.87 205	20 146	80
81	3.255	.86 618	18852	4.079	·87 942 ·88 651	21 558	81 82
82 83	3.326	·87 315 ·87 981	20 045	3 [.] 839 3 [.] 609	·89 333	°23 091 °24 754	83
84	3·127 2·907	·88 622	'21 320 '22 682	3.388	.89 986	26 561	84
i 1							
85	2.697	·89 234	24 134	3'177	.00 610	·28 524	85 86
86 87	2.498	·89 811	25 677	2·975 2·783	'91 205 '91 773	30 654 32 975	87
88	2°307 2°127	·90 367 ·90 893	·27 322 ·29 066	2.601	92 312	32 973	88
89	1.926	91 388	30 914	2.428	92 824	33 492	89
90		91 863	32 879	2.563	-	41 231	90
91	1 . 794 1.643	92 302	32 079	2.100	.93 311 .93 766	44 462	91
92	1'497	92 726	34 929	1,961	93 700	48 039	92
93	1.362	.03 111	39 369	1.856	94 604	51 824	93
94	1.536	93 487	41 807	1.693	94 995	.26 104	94
95	1'122	93 819	44 211	1.222	95 344	60 528	95
96	1,000	'94 148	46 864	1.428	95 690	65 627	96
97	917	94 415	49 246	1,365	95 975	.70 476	97
98	826	94 685	51 838	1.566	96 258	.76 027	98
99	.703	·95 047	·55 826	1.132	·96 64 0	.82 010	99
100	.221	·95 488	·61 580	. 979	·97 106	·99 181	100
101	'324	.96 139	72 632	.746	· 9 7 7 96	1.31 181	101
102	*000	97 087	·97 o87	415	98 774	2.38 113	102

 $O^{\mathbf{M}(5)}$

logarithms of a_x , A_x , P_x , and of \overline{a}_x , \overline{A}_x , \overline{P}_x

\boldsymbol{x}	$\log a_x$	$\log A_x$	$\log P_x$	$\log \bar{a}_x$	$\log \overline{\mathbf{A}}_x$	$\log \overline{\mathrm{P}}_{x}$	\boldsymbol{x}
10 11 12 13 14	1'393 04 '390 60 '388 09 '385 48 '382 78	1.447 21 .453 38 .459 65 .466 04 .472 53	2.054 17 .062 78 .071 56 .080 56 .089 75	1°384 10 °381 62 °379 07 °376 39 °373 63	ī·453 62 ·459 81 ·466 05 ·472 46 ·478 94	2.069 52 .078 20 .087 00 .096 08	10 11 12 13 14
15	'379 96	'479 12	'099 16	'37° 75	'485 54	114 78	15
16	'377 04	'485 80	'108 76	'367 77	'492 24	124 47	16
17	'374 00	'492 59	'118 59	'364 66	'499 05	134 40	17
18	'370 87	'499 48	'128 61	'361 48	'505 87	144 39	18
19	'367 61	'506 46	'138 85	'358 14	'512 86	154 73	19
20	364 22	513 54	'149 32	354 67	519 97	165 30	20
21	360 70	520 71	'160 01	351 08	527 13	176 06	21
22	357 06	527 96	'170 90	347 35	534 39	187 04	22
23	353 27	535 30	'182 03	343 49	541 72	198 22	23
24	349 35	542 73	'193 38	339 47	549 14	209 68	24
25	345 27	550 24	204 97	'335 30	556 65	221 36	25
26	341 05	557 81	216 76	'330 98	564 20	233 22	26
27	336 66	565 46	228 80	'326 48	571 88	245 39	27
28	332 11	573 19	241 08	'321 83	579 59	257 75	28
29	327 39	580 97	253 58	'316 98	587 39	270 42	29
30	322 48	588 82	266 34	311 97	595 22	283 26	30
31	317 40	596 71	279 31	306 75	603 13	296 38	31
32	312 13	604 66	292 53	301 33	611 10	309 76	32
33	306 65	612 67	306 02	295 74	619 07	323 33	33
34	300 98	620 71	319 73	289 92	627 11	337 18	34
35	*295 09	628 78	333 69	283 87	635 21	351 35	35
36	*288 99	636 89	347 99	277 61	643 31	365 71	36
37	*282 66	645 03	362 37	271 12	651 44	380 32	37
38	*276 10	653 20	377 10	264 37	659 61	395 24	38
39	*269 29	661 37	392 08	257 39	667 77	410 37	39
40	262 24	.669 55	'407 31	°250 13	.675 97	425 84	40
41	254 93	.677 73	'422 80	°242 62	.684 14	441 54	41
42	247 36	.685 93	'438 57	°234 82	.692 34	457 52	42
43	239 51	.694 10	'454 59	°226 73	.700 52	473 79	43
44	231 37	.702 25	'470 88	°218 35	.708 68	490 32	44
45	'222 95 '214 22 '205 19 '195 84 '186 16	710 40	'487 45	·209 68	716 81	507 14	45
46		718 51	'504 29	·200 69	724 91	524 23	46
47		726 59	'521 40	·191 34	733 01	541 68	47
48		734 62	'538 78	·181 67	741 06	559 39	48
49		742 61	'556 45	·171 67	749 05	577 38	49
50	176 15	'75° 55	'574 40	'161 31	.756 99	595 67	50
51	165 79	'758 42	'592 63	'150 57	.764 86	614 30	51
52	155 07	'766 23	'611 16	'139 47	.772 67	633 20	52
53	143 99	'773 96	'629 97	'127 98	.780 40	652 42	53
54	132 53	'781 62	'649 09	'116 11	.788 03	671 93	54

 $O^{M(5)}$

logarithms of a_x , A_x , P_x , and of \overline{a}_x , \overline{A}_x , \overline{P}_x

3 PER

\boldsymbol{x}	log a _x	$\log A_x$	log Px	$\log \overline{a}_x$	$\log \overline{\overline{\mathrm{A}}}_x$	$\log \overline{\overline{\mathrm{P}}}_{x}$	x
55 56 57	1'120 71 '108 48 '095 85	7,789 18 7,96 64 804 00	2.668 47 .688 16 .708 15	1.103 80	1.795 60 .803 06 .810 43	2.691 80 .711 96 .732 48	55 56 57
58 59	*082 83 *069 39	·811 27 ·818 41	'728 44 '749 02	.064 31 .050 26	·817 72 ·824 87	.753 41 .774 60	58 59
60 61 62 63	*055 52 *041 23 *026 51 *011 34	·825 44 ·832 34 ·839 11 ·845 75	'769 92 '791 11 '812 60 '834 41	°035 79 °020 82 °005 35 °0989 41	.831 88 .838 79 .845 56 .852 19	'796 10 '817 97 '840 21 '862 79	60 61 62 63 64
64 65 66 67 68	979 66 963 15 946 18	*852 23 *858 58 *864 77 *870 81 *876 70	*856 51 *878 92 *901 62 *924 63 *947 95	'972 96 '956 00 '938 53 '920 54 '902 01	*858 69 *865 04 *871 23 *877 27 *883 16	.885 73 .909 04 .932 70 .956 73 .981 14	65 66 67 68
69 70	910 87	·882 40 ·887 95	'971 53 '995 44	·882 94 ·863 32	·888 88 ·894 44	1.002 02	69 70
71 72 73 74	*873 72 *854 45 *834 75 *814 62	·893 34 ·898 55 ·903 59 ·908 45	1.019 62 '044 10 '068 84 '093 83	·843 16 ·822 42 ·801 15 ·779 31	'899 83 '905 05 '910 09 '914 96	°056 68 °082 64 °108 94 °135 64	71 72 73 74
75 76 77 78 79	794 °5 773 °5 751 64 729 84 707 66	'913 15 '917 66 '922 00 '926 16 '930 16	'119 10 '144 61 '170 36 '196 32 '222 50	756 90 733 92 710 36 686 27 661 59	919 66 924 19 928 54 932 71 936 71	'162 77 '190 28 '218 17 '246 45 '275 13	75 76 77 78 79
80 81 82 83	685 12 662 25 639 08 615 61	933 97 937 61 941 09 944 39	·248 85 ·275 36 ·302 01 ·328 78	.636 35 .610 59 .584 25 .557 36	'940 54 '944 20 '947 68 '951 01	'304 19 '333 61 '363 44 '393 65	80 81 82 83 84
84 85 86 87 88	591 86 567 90 543 79 519 49 495 15	947 54 950 53 953 33 956 oi 958 53	355 68 382 63 409 54 436 52 463 38	529 93 501 96 473 53 444 53 415 12	'954 17 '957 18 '960 02 '962 71 '965 26	'424 24 '455 21 '486 49 '518 18 '550 13	85 86 87 88
90 91 92 93	'470 74 '446 22 '422 02 '397 49 '373 85	'960 89 '963 14 '965 21 '967 20 '969 00	'490 15 '516 92 '543 19 '569 71 '595 15	385 21 354 70 324 06 292 48 261 38	'967 66 '969 93 '972 05 '974 07 '975 91	'582 45 '615 22 '647 99 '681 59 '714 53	89 90 91 92 93 94
94 95 96 97 98	'349 50 '326 76 '302 97 '282 67 '261 63	'970.75 '972 29 '973 81 '975 04 '976 28	'621 25 '645 53 '670 84 '692 37 '714 65	'228 71 '197 34 '163 79 '134 11 '102 47	'977 70 '979 29 '980 87 '982 16 '983 44	*748 99 *781 96 *817 08 *848 04 *880 97	95 96 97 98
99 100 101 102	*231 10 *190 51 *121 77 *000 00	977 94 979 95 982 90 987 17	'746 84 '789 44 '861 13 '987 17	·055 68 ī·990 82 ·872 45 ·617 86	'985 16 '987 25 '990 32 '994 64	'929 47 '996 43 0'117 87 '376 78	99 100 101 102

 $O^{M(5)}$

VALUES OF TEMPORARY ANNUITIES OF 1

Dura-	10	II	12	13	14	15	16	17	18	19	Dura-
tion.	23.719	23.581	23.440	23.293	23.142	22.986	22.825	22.659	22.490	22:314	tion.
0	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	0
1	.965	'965	.965	.965	.962	.962	.965	.965	.965	.965	1
2	1.896	1.896	1.896	1.896	1.896	1.896	1.895	1.895	1.895	1.895	2
3	2.794	2.794	2.794	2.794	2.794	2.793	2.793	2.793	2.793	2.792	3
4	3.661	3.661	3.661	3.660	3.660	3.000	3.659	3.659	3.658	3.658	4
5	4.497	4'497	4.497	4.496	4'496	4.495	4'494	4'494	4.493	4'492	5
6 7	5°304	5°303	5.303	5.305 6.080	5.302	5.301 6.078	5.300 6.072	5°299 6°076	5°298	5°297	8 7
8	6.833	6.832	6.831	6.830	6.829	6.828	6.826	6.825	6.823	6.821	8
9	7.558	7.556	7.555	7.554	7.552	7.221	7.549	7.547	7.545	7.542	9
10	8.256	8.255	8.253	8.251	8.250	8.248	8.245	8.243	8.240	8.237	10
ī	8.930	8.928	8.926	8.924	8.922	8.920	8.917	8.914		8.907	1
2	9.280	9.578	9.576	9.573	9.571	9.268	9.264	9.261	9.557	9.553	2
3	10.304	10.504	10.505	10,133	10,196	10,165	10.188	10.184	10,180	10.142	3
4	10.811	10.808	10.802	10.803	10.498	10.4	10.490	10.482	10.480	10.774	4
15	11.394	11.391	11.384	11.383	11.379	11.374	11.369	11'364	11.328	11.351	15
6	11.956	11.952	11.948	11'944	11.939	11,033	11.927	11.921	11'914	11.907	в
7	12.498	12.494	12.489	12.484	12.478	12'472	12'465	12.458	12.450	12.442	7
8 9	13.020	13.218	13.212	13.2004	13'499	13,491	12.983	12.975	12'966	12.957	8
l	'							13.473	J . U	13.452	_
20	14.000	14.003	13.996	13.089	13.981	13.972	13.963	13.952	13'941	13.929	20
2	14'476	14.470	14'462	14'454	14'445	14.436	14.425	14.413	14.401	14°387 14°828	1 2
3	15.361	15.325	15'343	12,333	15.353	15,311	15.508	15.584	15.568	15.251	3
4	15.779	15.770	15.760	15.749	15.737	15.724	15.709	15.694	15.677	15.658	4
25	16.181	16.171	16.160	16.148	1	16.151	16.102	16.088		16.040	25
- 6	16.269	16.228	16.246	16.532	16.218	16.205	16.485	16.466	16.446	16.424	6
7	16.942	16.930		16.902	16.886	16.869	16.850	16.830	16.808	16.783	7
8	17.301	17.582	17.273	17.257	17.240	17.222	17.501	17.179		17.128	8
9	17.646	17.631	17.616	17.599	17.280	17.260	17.538	17.214	17.487	17.459	9
30	17.978	17.962	17.945	17.927	17.907	17.885	17.860	17.834	17.806	17.775	30
	18.297	18.580	18.262	18.242	18.220	18.196	18.170	13.142	18.111	18.077	1
2 3	18.804	18.586	18.858	18.544	18.800	18.495 18.781	18.466	18.436 18.718	18·403 18·682	18·367 18·643	2 3
4	10.185	10,160	19.137	19'112	19.082	19.022	18.750	18 987	18.948	18'906	4
35	19.453	19'430	19'406	19'378		19,314	19.585	19'244		19.157	35
6	19.714	19.689	19.662	19.633	19.602	19.567	19.230	19 489	19'202	19.396	6
7	19.963	19'937	19.008	19.877	19.843	19.807	19.766	19.723	19.675	19.624	7
8	20.503	20.1.74	20.144	20'110	20.074	20 035	19.992	19.945	19.894	19.839	8
9	20.432	20'401	20.369	20.333	20.594	20.225	20.506	20.124	20.103	20'044	9
40	20.621	20.618	20.284	20.246	20.204	20.459	20'410	20.357	20.300	20'237	40
1	20.860	20.826	20.789	20.748		20.656	20.604	20.248		20'420	1
2	21.060			20'941		20.843		20.728		20.292	2
3	21,521	21,515	21.140	21'124	21.074	21'020	20.961	20.898		20.754	3
4	21'433	21.391	21'347	21,508	21.542	21'188	21.152	21.028		20'906	4
45	21.606	21.262	21.212	21.463	21'407	21.346		21,500		21.048	45
6 7	21.771	21.724	21.674	21.266 31.266	21.223	21.495	21,422	21.320	21.397	21'181	6 7
8	22.072	22.023	21.024	21,002	21.839	21.767		21.606		21.418	8
9	25,512	55.160		22.032	21.966	21.890	21.808	21.720	21.626	21.24	9
	10	II	12	13	14	15	16	17	18	19	

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VALUES OF TEMPORARY ANNUITIES OF 1

Dura-	20	21	22	23	24	25	26	27	28	29	Dura-
tion.	22.132	21.946	21.754	21.557	21.354	21.145	20.931	20.710	20:484	20.251	tion.
0	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	0
1	*965	'964	'964	964	964	'964	'964	'964	'964	964	1
3	2.492	2.792	1.894	1.894 2.491	2.40	1.894 2.490	2.4893	1.893 2.789	1.893 2.488	1.892 2.787	3
4	3.657	3.657	3.656	3.655	3.654	3.654	1 -	3.652	3.650	3.649	4
5	4.492	4.491	4.490	4.489	4.487	4°486	4.485	4.483	4.481	4.479	5
6	5.296	5.295	5.293	5.292	5.290	5.288	5.586	5.584	5.581	5.279	В
7	6.041	6.040	6.068	6.066	6.063	6.061	6.028	6.022	6.02	6.049	7
8	6.819	6.817	6.814	6.812	6.809	6.802	6.802	6.798	6.794	6.789	8
9	7.540	7.537	7.534	7.530	7.527	7.523	7.218	7.213	7.508	7.502	9
10	8·234 8·903	8.899 8.531	8·227 8·894	8·223 8·889	8'218 8'884	8·213 8·878	8·207 8·871	8·202 8·864	8·195 8·856	8·188 8·848	10
1 2	9.548	9.243	9.538	9.232	9.525	9.218	9.210	9.201	9'492	9.482	1 2
3	10.160	10.163	10.124	10,120	10,145	10,133	10,154	10,114	10,103	10,001	3
4	10.767	10.760	10.753	10.745	10.736	10'726	10.715	10.403	10.600	10.676	4
15	11.343	11.335	11.327	11'317	11.307	11.592	11.583	11.569	11.254	11.238	15
6	11.898	11.888	11.879	11.868	11.826	11.843	11.829	11.813	11.796	11.778	6
7	12.432	12.421	12.410	12.398	12.384	12.369	12.323	12.335	12.316	12.592	7
8 9	12.946	12.934	12.021	13.396	12.891	12.875 13.360	12.856	12.837	12.812	12.491	8 9
_	13.440	_	13.412	13.866	13.847	13.826	13'340	13.317		_	1
20 1	13.915	13.300	13.884	14.318	13 047	14.273	13.803	13.778	13.751	13.721	20 1
2	14.811	14'793	14.773	14.751	14.727	14.401	14.673	14.643	14.609	14.223	2
3	15.233	15.515	15.191	15.164	15.140	15.115	15.081	15.047	15.010	14.970	3
4	15.638	15.612	15.291	15.262	15.236	15.202	15.471	15.434	15.393	15.349	4
25	16.056	16.003	15.976	15.947	15.912	15.881	15.843	15.803	15.758	15.410	25
6	16.399	16.372	16.344	16.312	16.278	16.240	16.199	16.122	16'107	16.054	6
8	16.757	16.727 17.067	16.696	16.665	16.624 16.955	16.283	16.862	16.491 16.810	16.438 16.753	16.692	7 8
9	17.427	17.393	17.356	17.315	17.271	17.223	17.171	17'114	17.052	16.986	9
30	17.741	17.703	17.663	17.620	17.572	17.520	17.463	17.402			30
ı	18.040	18.000	17.957	17.910	17.858	17.802	17.741		17.604		1
2	18.327	18.583	18.237	18.189	18.130	18.070	18.002	17'934	17.858	17.775	2
3	18.600	18.223	18.203	18.449	18.389	18.324	18.254	18.179		18.008	3
4	18.860	18.810	18.756	18.698	18.634	18.262	18.490	18.409		18'226	4
35	19.108	19.022	18.997	18.934	18.866 19.084	18.792	18.712	18.625 18.828	18.532	18.431 18.622	35
6	19 ·3 44	19.286	19.325	19.369	19 004	19'006	19,119	10.018	18.913	18.799	6 7
8	19.779	19.714	19.644	19.268	19.485	19.396	19.599	19.196	19.084	18.963	8
9	19.980	19.910	19.836	19.755	19.667	19.572	19.470	19.360	19.242	19.112	9
40	20.169	20.092		19.930		19.737				19.252	40
1		20.520				19.890	19.776	19.654	19.23	19.382	1
2		20'433	20'344	20.248		20.032					2
3 4	20.673	20.286 20.28	20.629	20.23 0	20'407	20.163	20.125	19.905	1	19.604	3 4
45	20.928	20.861		-		20.394				19.783	45
6	21.086	20.081		20.756		20'495		_		19.858	6
7	21.504	21.097	20'982	20.859	20.727	20.286	20.435	20.275	20.102	19.925	7
8	21.314	21'201	21.081	20.952		20.667		20.342			8
9	21.414	21.296	21.121	21.037	20.893	20.741	20.248	20.406	20.554	20.033	9
	20	21	22	23	24	25	26	27	28	29	

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VALUES OF TEMPORARY ANNUITIES OF 1

Dura-	30	31	32	33	34	35	36	37	38	39	Dura-
tion.	20.013	19-768	19.517	19-261	18-998	18.728	18.453	18·172	17.884	17.591	tion.
0	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	0
1 2	*964	'964	963	'963	1.890	1.889 1.883	1.889	1.888	1962	1.886	1
3	2.787	1.892 2.486	1.891 2.485	1.891 2.484	2.782	2.781	2.780	2.778	1.887 2.277	2.775	2 3
4	3.648	3.646	3.645	3.643	3.641	3.639	3.637	3.634	3.631	3.628	4
5	4.477	4.475	4'473	4.470	4.467	4.464	4.460	4.457	4,452	4.448	5
8	5.546	5.273	5.569	5.266	5.262	5.257	5.252	5'247	5.241	5'234	6
8	6.784	6.779	6.036	6.031 6.466	6.025 6.759	6.019 6.421	6.743	6.002 6.434	5.998 6.723	5.989	7 8
9	7.496	7.489	7.482	7.473	7.464	7.454	7.444	7'432	7.419	6.712 7.405	9
10	8.180	8.172	8.165	8.152	8.141	8.129	8.119	8.103	8.086	8.060	10
1	8.838	8.828	8.817	8.804	8.791	8.776	8.760	8.743	8.724	8.703	1
2	9.470	9.458	9.445	9.430	9,414	9'397	9.378	9.357	9'335	9.310	2
3 4	10.048	10.063	10.048	10.030	10.013	6. 991	9.969	9'945	9.918	9.890	8
	10.661	10.644	11,180	10.606	10.284	10.260	10.234	11.043	10.476	10'442	.4
15 6	11.757	11.735	11'711	11.124	11.132	11.622	11.201	11.224	11.214	10.969	15 6
7	12.272	12.247	12.550	13,100	12.128	12.155	12.084	12'042	11.997	11.942	7
8	12.765	12.737	12.706	12.673	12.636	12.597	12.223	12.206	12.455	12.400	8
9	13.534	13.500	13.171	13.134	13.093	13.048	13.000	12.948	12.891	12.829	9
20	13.689	13.654	13.615	13.273	13.228	13.479	13.425	13.367	13.303	13.532	20
1 2	14'121	14.081	14.039	13'992	13'942	1 3.8 88	13.828	13.764	13.694	13.618	1
3	14 ·5 33	14.490	14.827	14'391	14.710	14.644	14.572	14'139	14.063	13.979	2 3
4	15.301	15.549	15.195	15.131	15.064	14'992	14.913	14.829	14.737	14.638	4
25	15.658	15.601	15.239	15'472	15'400	15'321	15.235	15'143	15.044	14.936	25
в	15.997	15.935	15.868	15.795	15.716	15.631	15.238	15.438	15.330	15.514	6
7	16.319	16.252	16.179	16,100	16.012	15.922	15.822	15.41	15.298	15.473	7
8 9	16.624	16.252 16.835	16.473 16.473	16.384 16.628	16.222	16.192	16.336	15.972	15 ^{.8} 47	15.713	8
30	17'186	17.101	17.010	16.911	16.802	16.690	16.299	16.433	16.500	16.134	30
ĭ	17.443	17'352	17.254	17'148		16.915	16.480	16.638	16.486	16.353	ĭ
2	17.685	17.588	17.483	17:370	17.249	17.117	16.977	16.826	16.665	16.493	2
3	17.912	17.808	17.696	17.576	17:447	17:307	17.128	16.999	16.828	16.646	3
4	18.124	18.013	17.894	17.766	17.629	17.482	17.324	17.155	16.976	16.785	4
35	18.322	18.204	18.078 18.248	17.942	17.797	17.641	17.475	17.298	17.100	16.908	35
6 7	18.676	18·381 18·545	18.404	18.104 18.252	18.001	17.787	17.735	17.425	17.333	17.018	6 7
8	18.834	18.695	18.246	18.387	18.518	18.037	17.845	17.641		17'199	8
9	18.979	18.832	18.676	18.209	18.332	18.143	17'942	17.731		17.272	9
40	19.111	18.957				18.237				17.334	40
1	19.232	19.071	18.900	18.717		18.320				17:387	1
2 3	19.341	19.173	18.994 19.078	18.802		18.392	18.169	17.934	17.689	17:431	2 3
4	19'439	19 204	19.123	18.949	18.734		18.272			17.498	4
45	19.605	19.416		19.007		18.224				17.521	45
8	19.674	19.479	19.273	19.026			18.344	18.086	17.818	17.240	6
7	19'734	19.233	19.321	10,000	18.866	18.623	18.370	18.108		17.555	7
8	19.786	19.579	19.362	19.134		18.649		18.122		17.565	8
9	19.830	19.618	19.396	19.193	18.021	18.669	18.408	18.138	17.860	17.574	9
	30	31	32	33	34	35	36	37	. 38	39	
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VALUES OF TEMPORARY ANNUITIES OF 1

Dura-	40	41	42	43	44	45	46	47	48	49	Dura-
tion.	17.291	16.986	16:675	16.358	16.036	15.709	15.377	15.040	14.698	14:352	tion.
0	.000	.000	*000	.000	.000	.000	.000	,000	.000	•000	0
1	.961	.961	.961	.960	960	959	'959	.958	.957	957	1
2	1.882	1.884	1.883	1.882	1.880	1.879	1.877	1.875	1.873	1.871	2
3 4	2.773 3.625	2.441 3.651	2.7 68	2.766 3.613	2.763 3.609	2.400 3.603	2.757 3.598	2.753 3.292	2.249 3.282	2°745 3°578	3 4
		_	-	4.422	4,418	4'410	4'402	1	4'383		
5 6	4°443 5°227	4.438 5.220	4.432 5.513	5.505	2,193	5.181	5.1405	4°393 5°157	5.143	4'372 5'128	6
7	2.980	2.969	5.958	5.946	5.933	2.918	2.903	5.885	5.867	5.846	7
8	6.400	6.687	6.673	6.657	6.640	6.621	6.601	6.578	6.222	6.28	8
9	7.390	7'374	7.355	7'336	7.314	7.291	7.265	7.237	7.208	7.175	9
10	8.020	8.030	8.008	7.983	7.957	7.928	7.897	7.863	7.827	7.787	10
1	8.681	8.656	8.630	8.600	8.269	8.234	8.497	8.456	8.412	8.364	1
2	9.283	9.254	9.223	9.188	9,121	9,110	9.066	9.017	8.965	8.909	2
3 4	9.858	9.824	9.787	9.747	9.703	9.655	9.604	9.547	9.487	9'421	3 4
1	10.406	10.367	10.324	10'277	i	10'171			9'977	9.901	l
15	10.927	10.882	11.316	10.779	11.180	10.658	10.290	10.219	10.437	10.321	15
6 7	11'423	11.372	11.772	11.404	11.630	11'117	11.463	11,360	11.560	11.160	6 7
8	12.340	12.522	12.504	12.124	12.042	11.022	11.828	11.754	11.642	11.251	8
9	12 762	12.689	12.611	12.252	12.433	12.334	12.522	12.111	11.988	11.855	9
20	13.160	13.080	12.993	12.899	12.797	12.687	12.570	12.443	12'307	12.163	20
1	13.236	13.447	13.352	13.248	13.132	13.016	مذة ا	12.749	12.601	12'442	1
2	13.889	13.792	13.687	13.574	13.452	13.321	13.181	13.030	12.869	12.698	2
8	14.551	14.112	14.000	13.877.	13.745	13.603	13.451	13.582	13.114	12.029	3
4	14.231	14.416	14.591	14.128	14.012	13.861	13.697	13.222	13.332	13.134	4
25	14.820	14.695	14.261	14.417	14.563	14.098		13.734	13.232	13.353	25
6	15.089	14.955	14.810	14.655	14.490	14.313	14'125	13.925	13.713	13.489	6
8	15.338	15.194	15.039	14.873	14'697	14.508	14'308	14.096	13.871	13.634 13.761	7 8
9	15.480	15.612	15.440	12.52	12.023	14.841	14.618	14.381	14'133	13.871	9
30	15.974	15.799	15.612	15.414	15.504	14.080	14.746	14.497	14.238	13.966	30
ĭ	16.120	15.965		15.228	15.337	12,103	14.857	14.208	14.358	14.045	1
2	16.300	16.114	15.907	15.687	15.455	15.510		14.685	14.404	14.115	2
3	16.453	16.548	16.030	15.800	15.228	15.303	15.037	14.758	14.468	14'167	3
4	16.281	16.366	16.139	15.899	15.647	15.383	15.102	14.819	14.251	14'212	4
35	16.692	16.471	16.534	15.084	15'724	15.450	15.166	14.870	14.264	14.548	35
6	16.796	16.262	16.316	16.028	15.788	15.206	15.514	14.911	14.598	14.276	6
8	16.884	16.41 16.41	16.386	16.130	15 [.] 842	15.223	15.524	14'944	14.625	14.214	7
ő	17.025	16.766		16.114	15'923	15.20	15.310	14.989	14.662	14'314	8 9
40		16.814		16.549		15.644		12,002			40
1	17.126		16.237	16.249		15.663		15.016	14.682	14'335	1
2		16.886	16.242	16.599		15.677		15.054		14'345	2
3	17.195	16.911	16.618	16.316	16.006	15.687	15'362	15.029	14.692	14.348	3
4	17.219	16.931	16.634	16.329		15.694		15.033		14.320	4
45	17.239	16.947	16.647	16.338	16.023	15.699		15.032		14.351	45
6	17.254	16.959	16.626	16.345		15.403	15.373	15.037		14.321	6
7	17.265	1 6 .968		16.320	16.031	15.705		15.038		14.352	7
8 9	17.273	16.974 16.978	16.667	16.323	16.032	15.707		12.030	14.698 14.698	14.352	8 9
	-1219			16.322		15.404		15.039		14.325	
	40	41	42	43	44	45	46	47	48	49	
	40	41	42	43	44	45	40	4/	40	49	_

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VALUES OF TEMPORARY ANNUITIES OF 1

Dura-	50	51	52	53	54	55	56	57	58	59	Dura-
tion.	14.002	13.648	13.291	12.931	12.569	12.204	11.838	11.470	11.101	10.732	tion.
0	.000	.000	.000	.000	.000	.000	.000	.000	.000	•000	0
1	.956	955	954	. 953	·952	.951	.949	'948	946	'944	1
2	1.869	1.866	1.863	1.860	1.857	1.853	1.849	1.845	1.840	1.835	2
3	2.740	2.734	2.729	2.723	2.716	2.708 3.218	2.700	2.692	2.682	2.672	3 4
4	3.240	3.261	3.22	3.212	3.230 4.300	4.585	3.204 4.262	3.490 4.541	3°474 4°217	3°457 4°192	
5 6	4.360	4°347 5°093	4°333 5°073	4°317 5°051	5.038	5.003	4'975	4'945	4.913	4.877	5 6
7	5.824	5'799	5.773	5.745	5.414	5.680	5.643	5.604	5.261	5.212	7
8	6.200	6.468	6.435	6.398	6.359	6.316	6.569	6.510	6.164	6.102	8
9	7.139	7.100	7.058	7.013	6.964	6.910	6.852	6.490	6.723	6.620	9
10	7.743	7.696	7.645	7:590	7.230	7.465	7:395	7:320	7.239	7.12	10
1	8.312	8.256	8.192	8.129	8.028	7.981	7.898	7.809	7.713	7.610	1
2	8.847	8.781	8.210	8.632	8.549	8.459	8.362	8.259	8'147	8.028	2
3	9'349	9.272	9.190	9,100	9.004	8.900	8.789	8.670	8:542	8.406	3
4	9.819	9.731	9.636	9.534	9'424	9.306	9.179	9.045	8.900	8.746	4
15	10.258	10.124	10.020	9'934	10.1 03	9.677	9.535 9.857	9°384 9°689	9.210 9.255	9.021	15
6 7	10.665	10.22	10.432	10.639	10.482	10,351	10.146	9.962	9.766	9.559	6 7
8	11,331	11.525	11'104	10.042	10.429	10.202	10.406	10.304	9,991	9.767	8
9	11.215	11.229	11.397	11.553	11.039	10.843	10.636	10.418	10.188	9.947	9
20	12.005	11.839	11.661	11.473	11.273	11.065	10.838	10.604	10.328	10,101	20
ī	12.525	12.092	11.000	11.696	11.481	11.524	11.012	10.765	10.204	10.531	1
2	12.214	12.319	12.113	11.895	11.662	11'423	11.198	10.904	10.622	10:340	2
3	12.732	12.23	12.302	12.040	11.825	11.268	11.300	11,051	10.430	10.430	8
4	12.926	12.404	12.469	12.535	11.963	11.693	11.411	11.118	10.819	10.204	4
25	13.099	12.863	12.612	12.324	12'082	11.798	11.203	11,100	10.882	10.262	25
6	13.251	13.005	12.741	12.467	12.182	11.887	11.280	11.265	10.940	10.608	6
7	13'384	13.155	12.849	12.263	12.336	11.010	11.692	11.312	11.018	10'671	7 8
8	13.499	13.313	13.016	12'709	12,395	12.066	11.432	11,301	11'043	10.690	9
30	13.681	13.382	13.080	12.763	12'437	12'104	11.762	11'415	11.065	10.402	30
ĭ	13.751	13.446	13.131	12.806	12.473	12'132	11.785	11.432	11.075	10.412	ĭ
2	13.808	13.495	13'172	12.840	12.200	12.124	11.801	11.445	11.082	10.431	2
3	13.855	13.234	13'204	12.866	12.21	12.140	11.814	11.454	11.001	10.26	3
4	13.893	13.262	13.55	12.886	12.236	15,185	11.822	11.460	11.092	10.429	4
35	13.022	13.288	13.548	12.000	12.247	12.130	11.828	11.464	11.008	10.430	35
6	13.945	13.606	13.262	12,011	12.222	12.192	11.832	11'467	11,100	10.731	6
7	13.962	13.620	13.272	12.018	12.260	13,100	11.834	11'468	11,101	10.732	7 8
8	13.975	13.636	13.523	12,052	12.264	12,501	11.836	11'470	11,101	10.732	9
40	13,000	13.640	13.586	12.058		13,303	11.837	11.470	11,101	10.732	40
1	13.992	13.643	13.588	12.930			11.837	11.470		10'732	ĩ
2	13.997	13.645	13.500			12.504	11.837		11,101	10.732	2
3	13.999		13.500	12.931	12.268	12.204	11.837	11.470		10.432	3
4		13.647	13.591	12.931		12.504		11.470		59	
45	14.001		13.591			12'204		11.470	58	EA	
6		13.648					11.838	57	51		
7	14.003		13.501			12.304		52		14.002	
8	14'002	13.648		12.031	12.269		1	l ———	13.648	14.003	52
"	14 002	13 040	13 291	931	1		1	13.291	13'648	14.003	1
								13.501	13.648	14'002	50
	50	51	52	53	54	55	56	52	51	50	
	<u> </u>				<u></u>		'				

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VALUES OF TEMPORARY ANNUITIES OF 1

Dura-	60	61	62	63	64	65	66	67	68	69	Dura-
tion.	10.364	9.996	9.629	9.265	8.902	8.542	8·187	7.834	7.487	7.144	tion.
0	.000	.000	.000	.000	.000	.000	.000	.000	,000	.000	0
1	•943	'940	•938	.936	'933	.930	'927	.923	.919	.912	1
2	1.829	1.823	1.816	1.808	1.800	1.492	1.482	1.772	1.460	1.748	2
3	2.660	2.648	2.635	2.620	2.604	2.287	2.268	2.248	2.226	2.203	3
4	3.438	3.418	3.396	3.372	3.346	3.318	3.588	3.255	3.550	3.185	4
5	4.164	4'134	4'102	4.067	4.028	3.987	3.943	3.896	3.844	3.489	5
6	4.839	4.798	4'753	4.705	4.653	4.597	4.536	4.472	4.402	4.328	8
7	5.465	5.410	5.352	5.589	5.551	5'148	5.070	4.987	4.898	4.803	7
8	6.042	5.973	5.900	5.821	5.736	5 [.] 645	5.248	5°445 5°848	5.335	5.518	8
9	6.273	6.488	6.398	6.302	6.199		5.972		5.716	5.577	9
10	7.058	6.957	6.850	6.735	6.613	6.483	6.345	6.200	6.046	5.884	10
1	7:500	7.382	7.257	7.123	6.981	6.830	6.672	6.204 6.262	6.328	6.144	1
2	7.901	7.765	7.620	7.467	7°305 7°588	7.134	6.954	6.986	6·567 6·768	6.365	2
3	8.261	8.102	7'943 8'228	7:770 8:035	7.833	7.396 7.621	7°195 7°400	7.171	6.933	6.542 6.688	3 4
4	8.583			8.564	8.042	7.811				6.802	
15	8.870	8.678	8.476 8.691	8.460	8.550	7.970	7.571	7°323 7°447	7.067	6.897	15
6	9.122	8.911	8.875	8.626	8.368	8.103	7.713	7.546	7.174	6.964	6
7	9.342	9.113	9.031	8.765	8.491	8.500	7.919	7.624	7°259 7°324	7.021	8
8	9.532	, -	9.191	8.880	8.291	8.594	7'992	7.684	7'373	7.061	9
1	_	9.433	9.268	8.973	8.670	8.361	8.047	7.730		7.089	1 1
20	9.833	9.555		9.048	8.733	8.413	8.089	7.763	7°410	7.109	20 1
1	9'949	9.657	9°356 9°426	9.106	8.781	8.452	8.130	7.787	7.454	7.122	2
2 3	10.044	9.739 9.805	9.481	9.122	8.818	8.481	8.143	7.804	7.466	7.131	3
4	10.184	9.856	9.523	9.186	8.845	8.203	8.128	7.816	7.475	7:137	4
1 -	10.533	9.896	9.555	9.511	8.864	8.216	8.160	7.823	7.480	7.140	25
25	10.520	9.926	9.579	9.229	8:878	8.26	8.176	7.828	7.483	7.142	6
6 7	10,500	9'949	9.596	9.242	8:887	8.233	8.181	7.831	7:485	7.143	7
8	10,350	9.965	9.608	9.250	8.893	8.537	8.183	7.833	7.486	7'144	8
) ě	10.332	9.976	9.616	9.256	8.897	8.239	8.182	7.834	7.486	7.144	9
30	10.342	9.983	9.621	9.260	8.899	8.241	8.186	7.834	7.487	7'144	30
ĭ	10.325	9.988	9.625	9.262	8.901	8.542	8.186	7.834	7.487	7'144	ĭ
2	10.322	9.992	9.627	9.263	8.901	8.242	8.186	7.834	7.487	7'144	2
3	10.360	9.993	9.628	9.264	8.902	8.242	8.186	7.834	7.487	7'144	3
4	10.362	9.995	9.629	9.264	8.902	8.542	8.184	7.834	7.487	69	
35	10.363	9.995	9.629	9.264	8.902	8.542	8.182	7.834	68		
6	10.364	9.996	9.629	9.264	8.902	8.542	8.187	67		40	
7	10.364	9.996	9.629	9.265	8.902	8.542	66		41	17:291	
8	10.364	9.996	9.629	9.265	8.902	65		42	16.986		
9	10.364	9,996	9.629	9.265	64		43	16.675		17.291	62
40	10.364	9.996	9.629	63	4-	44	16.358		16.986	17.291	60
1	10.364	9.996	62	16	45_	16:036		16.675	10.000	17.291	
2	10.364	61	45	46	15.709		16.358	16.675	16.986		59
	60		47	15.377		16.036			16.986	17.291	8
		48	15.040		15.400	10.030	16.328			17.291	7 6
	49	14.698	TT'040	15.377	15.709				16.986 16.986	17.201	5
	14.352		15'040	15.377	15.709	16.036				17.291	
_E		14.698	15.039	15.377	15.709	16.036 16.036			16.985	17.290	54
53 2	14.352	14.608	12,030	15.377	15.408	16.036	16.328 16.328	16 [.] 674	16.984	17.288	3 2
1	14.352	14.698 14.698	12,030	15.377	15.708		16.357	16.673	16.983	17.286	1
50	14'352 14'352	14.698	12.039	15°377	15.408	16.032	16.324	16.673	16.981	17.284	50
											
	49	48	47	46	45	44	43	42	41	40	

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VALUES OF TEMPORARY ANNUITIES OF 1

Dura-	70	71	72	73	74	75	76	77	78	79	Dura-
tion.	6.808	6.477	6.152	5.835	5.526	5.224	4.930	4.645	4.368	4.101	tion.
0	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	0
1	.911	.906	.900	'894	.888	.881	.873	.862	856	.847	1
2	1.735	1.451	1.402	1.688	1.670		1.629		1.285	1.222	2
3 4	2.477	2'449	2.420	2.388	2.353	2.316 5.886	2.276	2'234	2.188	2.139	3 4
	3'141	3.097	3.049	2.998	2.944		1 -	2.758	2.689	2.012	
5 6	3.730	3.667	3.599	3.527	3.450 3.879	3.369	3.585	3.101	3.096	2.995	5 6
7	4°249 4°702	4'164 4'595	4°075 4°482	3°979 4°363	4'237	3.772 4.106		3.544 3.825	3.677	3'294 3'525	7
8	5.094	4.964	4.827	4.683	4.533	4'377	4.514	4.042	3.875	3.699	8
9	5.430	5.276	5.112	4'948	4.773	4.593	4.408	4.218	4.054	3.827	9
10	5.715	5.238	5.354	5.163	4.966	4.764	4.557	4.347	4'134	3'920	10
1	5.953	5.753	5.547	5.335	5.117	4.895	4.670	4.442	4.513	3.985	1
2	6.149	5.929	5.405	5.470	5'234	4.992	4.753	4.211	4.269	4'029	2
3	6.308	6.069	5.824	5.275	5.322	5.068	4.813	4.229	4.306	4.028	3
4	6.436	6.179	5.918	5.623	5.384	2,151	4.855	4.291	4'331	4.076	4
15	6.237	6.264	5.989	5.712	5.434	5'157	4.883	4.612	4'347	4.087	15
6	6.614	6.328	6'041	5.753	5.467	5.185	4.902	4.626	4.356	4.094	6
7	6.673 6.716	6.376	6.102	5.483	5.489	2,166	4'914	4.634 4.639	4.362	4.097	7 8
8 9	6.747	6.434	6.153	5.803	5.213	5.516	4'921	4.642	4.365	4'099. 4'100	9
20	6.769	6.450	6.132	5.824	2.219	5.510	4.927	4.643	4.368	4,101	20
1	6.783	6.461	6.145	5.829	5.25	2,555	4'927	4.644	4.368	4.101	1
2	6.793	6.467	6.142	5.832	5.24	5.553	4.929	4.644	4.368	4'101	2
3	6.799	6.472	6.149	5.834	5.22	5.553	4.930	4.645	4.368	4'101	3
4	6.803	6.474	6.121	5.834	5.22	5.553	4'930	4.645	4.368	79	
25	6.802	6.475	6.125	5.835	5.525	5.224	4'930	4.645	78		
в	6.806	6.476	6.125	5.835	5.26	5.554	4.930	77		30	
7	6.807	6.476	6.125	5.835	5.256	5.524	76	22	31	20.013	
8	6.807	6.477	6.125	5.835	5.26	75		32	19.768	20.013	72
9	6.808	6.477	6.125	5.835	74	34	_33_	19.517	19.768	20.013	1
30	6.808 6.808	6.477	6.125	78	35		19:261	19.217	19.768	20.013	70
1 2	6.808	6.477	72	36		18.998	19'261	19.217	19.768	20.013	69
^	70	71	37		18.728	18.998	19.260	19.217	19.768	20.013	8
		38	18:172	18.453	18.728	18.998	19.260	19.217	19.768	20.013	7
	39	17:884		18.453	18.728	18.998	19.560	19.217	19.768	20.013	в
	17.591		18.172	18.453	18.728	18.998	19.560	19.217	19.768	20.015	5
		17.884	18.172	18.453	18.728	18.998	19.260	19.217	19.768	20'012	64
63	17.591	17.884 17.884	18.172	18.453 18.453	18.728 18.728	18.008	19.260	19.217	19.767 19.767	20'012	3
2	17.291	17.884	18.172	18.453	18.728	18.998 18.998	19.560	19.219	19.766	20,010	2
60	17.591	17.884	18.172	18.453	18.728	18.997	19.259	19.212	19.765	20.008	60
59	17.291			18.453			19.528	19.214	19.763	20'005	59
8	17.291	17.884		18.452		18.996	19.257	19'512	19.760	20,001	8
7	17.590	17.884				18'994	19.255	19.209	19.755	19.992	7
в	17.290	17.883	18.140	18.451	18.725	18.992	19.521	19.204		19.987	в
5	17.290	17.883	18.169	18.449	18.722	18.989	19.247	19.498	19.741	19'977	5
54	17.289	17.882	18.164	18.446	18.719	18.984	19.240	19.490	19.731	19'964	54
3	17.588	17.880	18.162	18'443		18.977	19.535	19.479	19.717	19'947	8
2	17.586	17:877	18.161	18.438	18.707	18.968	19.550	19.465	19.699	19'926	2
1 50	17.583	17.873	18.126	18.431 18.431	18.685 18.685	18.926	19.502	19.446	19.678	19.868	1 50
_ 	17.579		18.148				19.186	19.424			-50
	39	38	37	36	35	34	33	32	31	30	

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VALUES OF TEMPORARY ANNUITIES OF 1

3 PER

Dura-	80	81	82	83	84	85	86	87	88	89	Dura-
tion.	3.843	3.595	3.356	3·127	2.907	2.697	2.498	2.307	2·127	1.956	tion.
0	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	0
1	.836	.825	.813	.800	.786	.771	755	.738	.720	.700	1
2	1.222	1.496	1.464	1.429	1.393	1.324	1,315	1,560	1,553	1.146	2
8	2.088	2.033	1.976	1.012	1.821	1.483	1.413	1.641	1.262	1'488	8
4	2.237	2.456	2.340	5.581	2.188	2.093	1,004	1.893	1.490	1.686	4
5	2.890	2.481	2.668	2.225	2.432	2.309	2.182	2.020	1,033	1.807	5
6	3.163	3.022	2.888	2.746	2.603	2.456	2.310	2.164	2.030	1.877	6
7	3.368	3.500	3.042	2.883	2.414	, ,,,,	2.389	2.228	2.040	1.912	7
8	3.20	3.339	3.122	2.975	2.793	2.614	2.438	2'266	2,099	1'937	8
9	3.029	3.431	3.233	3.036	2.841		2.466	2.586	2'114	1.948	9
10	3.706		3.585	3.074	2.871		2.482	2.297	2,151	1.923	10
1	3.758	3.534	3.313	3.098	2.888		2,490	2'303	2.122	1.955	1
2	3.792	3.559	3.332	3,111	2.897		2'494	2.306	2'126	1.956	2 3
3 4	3.813	3.575	3'344	3,110	2.003		2.496	2:307	2,124	1.956	٥
	3.827	3.284	3.350	3,153	2.905	2.696	2.497	2.307	2.122	89	
15	3.834	3.289	3.353	3.122	2.906		2.498	2.307	88	20	
8 7	3.839	3.592	3.355	3.150	2.907		2.498	87	21		
8	3.841 3.842	3.594	3.356	3.127	2.907		86	22		22.132	
8	3.843	3.294	3·356 3·356	3.127	84	85	23		21.946	22.132	82
	3.843	3.294		83		24		21.754	21'946	22.135	1
20	3.843	3.292	3.326		25		21.557	21.754	21.946	22,135	80
2	3.843	3°595 81	82	26		21.354	21.222	21.754	21.946	22.135	79
-	80	-01	27		21.145	21.324	21.224	21.754	21.946	22'132	8
		28		20-931	21'145	21.354	21.22.	21.754	21.946	22.132	7
	29		20.710	20'931	21.142	21.323	21.22	21.754	21'946	22.132	6
		20.484	20'710	20.931	21.142	21.323	21.22	21.754	21'946	22.132	5
	20.251	20'484	20.710	20.931	21'145	21.323	21.222	21.754	21'945	22.132	74
73	20.521	20'484	20.410		21'145	21.323	21.222	21.754	21'945	22'132	3
2	20.521	20'483	20.410	20.930	21'145	21.323	21.224	21.754	21.942	22.131	2
1	20.521	20.483	20.410	20.930		21.323	21.226	21.753	21.944	22.130	1
70	20.521	20.483	20.410	20.930	21.142	21.323	21.226	21.753	21.943	22.139	70
69	20.521	20.483	20.410	,		21.323		21.752	21.945	22.122	69
8	20.521	20.483	20.410			21,325		21.750	21'940	22.134	8
7	20.521	20'483	20.409		-	21,321		21.748	21.937	22'120	7
6	20.221	20.483	20.709			21'349	21.221	21.745	21.933	22'114	6
5	20.221	20.482	20.708		_	21.347	21.247	21'741	21.927	22.107	5
64	20'250	20.482	20.707			21'344	21.243	21.735	21'920	22.098	64
3	20.220	ľ	20.702		21.132	21.339	21.237	21.727	21'910	22.086	3
2	20.248	20.479	20.403			21.333	21.229	21.414	21.898	22.072	2
60	20'246			20.008		21.314	21.219	21.489	21.003	22.032 22.032	1 60
	• • •	_	20.694	20.899		• •	•	_			
59	20.334		20.678	20.888	21,000	21.300	21.460	21.646	21.841	22 000	59
8 7		20'450				21.563		21.618		21'020	8
6	20.514	20'438	20.651	20.855		21.532	21,419		21.745	21.897	7 6
5	20.504					21.504				21.849	5
54	50.188	1		1 -		21.121	21,341		21.622	21.49	54
3	20.162					21,130		21,420		21.734	3
2	20'142		20.242			21.081				21.666	2
ĩ	20,115	20'314				21.026	21.181	21.326	21.462	21.290	ı
50	20.076	20.523	20.460	20.638	20.805	20'964	21'113	21.222	21.383	21.206	50
		28	27	26	25	24	23	22			
	29	20		20	-2	-4	دع	~~	21	20	

 $O^{M(5)}$

VALUES OF TEMPORARY ANNUITIES OF 1

Dura-	90	91	92	93	94	95	96	97	98	99	Dura-
tion.	1.794	1.643	1.497	1.365	1.236	1.122	1.009	·917	·826	•703	tion.
0	.000	.000	.000	.000	'00 0	.000	,000	.000	.000	.000	0
1	.6 79	.658	.633	.610	.283	.228	.526	.205	. 485	453	1
2	1.122	1.074	1.020	·966	908	.852	.491	746	.705	.642	2
3	1.408	1.328	1.542	1.162	1.079	1,000	.919	·856	797	.703	3
4	1.281	1.476	1.371	1,560	1.162	1.072	977	902	.826	99	
5 6	1.681	1.223	1.437	1.322	1.502	1.104	1,000	.917	98	10	
7	1.437	1.625	1°470 1°486	1.347	1'234	1,15	96	97	II		
8	1.782	1.632	1.493	1.364	1.536	95		12	90.501	28·7 19	
9	1.789	1.640	1.496	1.365	94		13	23:440	23.581	23.719	92
10	1'792	1.642	1'497	93		14	23.293		23.281	23.719	1
1	1.794	1.643	92		15	23.142		23.440	23.281	23.719	90
2	1.794	91		16	22.986		23.293	23.440	23.281	23.719	89
	90	-0	17	22.825		23'142	23.293	23'440		23.719	8
ł	70	18	22.659	22.825	22.986 22.986		23.203			23.719	7 6
	19	22.490	22.659	22.825			23.593 53.593	23.440	23.281	23.719	5
!	22.314	22.490	22.659	22.825	-	23'142	53.593			23.719	84
83	22'314	22.489	22.659	22.825			53.593		23.281	23.718	3
2	22'314	22.489	22.659	22.825	22.986		23.593	23.439	23.281	23.718	2
1	22.314	22.489	22.659	22.825	22.986	23'142	23.292		23.280	23.717	1
80	22.314	22.489	22.659	22.825		23.145	23.595	23.438	23.280	23.216	80
79	22.314	22.489	22.659	22.825			23.292		23.579	23.412	79
8	22.314	22.489		22.825			23.591		23.577	23.413	8
7	22.313	22.489	22.659	22.824			23.290		23.575	23.710	7
6	22.313	22.489	22.659	22.824			23.288	23'433	23.572	23.707	6
5	22.313	22.489	22.659	22.823	22.983		23.586	23.430	23.268	23.702	5
74	22,313	22.488	22.658	22.820	22.981		23.283	23.426		23.695 23.687	74 3
2	22,311	22.486	22.655	22.818	22.976		23.273			23.677	2
l ī	55,310	22,484	22.623	22.814			23.566			23.664	ī
70	22.308	22.481	22.649	22.810		23.114				23.649	70
69	22.305	22.478	22.644	22.804		23.102	23.246			23.630	69
8	22.302	22.473	22.637	22.796		23.093	23.232	23.364		23.609	8
7	22.296	22.466	22.629				23.512		23.467	23.284	7
6	22.290	22.458		22.773			23.194	1 .		23.255	6
5	22,581	22.447	22.602	22.757		23.040	23.140	23.594	23.411	23.221	5
64	22,560	22.433		22.738		23.012	23.142	23.263	23.376	23.483	64
3	22.222	22.416		22.715	22.854		23.110	23.227	23.337	23.441	3
2	22.238	22.396	22.246			22 [.] 952 22 [.] 914	23.033			23'393	2 1
60	22,101		22.486			22.870					60
59	1 1	22.309			22.404				23.158	-	59
8	22.122			22.233	22.653	22.766	22.871		23.061	23.147	8
7	22.087		22.357		22.596	22.705	22.806			23.071	7
В	22.041	22.172	22.302	22.421	22.233	22.637	22.734	22.825	22.000	22.088	6
5	21.988	22,110	22.541			22.263	l .		22.823	22.899	5
54	21.929	22.022	22'173	22.583			22.21	22.654		22.802	54
3	21.864	21.985	22.098			22'394	22.479	22.228	22.631	22.700	3
2		21.821	22.012		22,117		22.380	22.455	22.22	22.289	2 1
50	21.410	21.728	21.827	51,010 55,051	1	22.102 25.084	22.128	22.344	22.411	22.347	50
	l										
	19	18	17	16	15	14	13	12	II	10	
					-	72					

$O^{M(5)}$

$3\frac{1}{2}$ PER CENT.

CONSTANTS.

Constant.	Number.	Logarithm.
i	.032	2·544 068 o
(1 +i)	1.032	0.014 940 3
$(1+i)^{\frac{1}{2}}$	1.014 349 2	0.007 470 5
$(1+i)^{\frac{1}{2}}$	1'008 637 4	0.003 432 1
v	966 183 6	7.985 059 7
$v^{\frac{1}{2}}$	·982 946 4	ī·992 529 8
₽ŧ	·991 436 5	ī·996 264 9
ď	·033 816 4	2.529 127 7
δ	·034 401 4 _.	2 ·536 576 5

 $O^{M(5)}$

COMMUTATION TABLE

31 PER

x	\mathbf{D}_{x}	N_x	S_x	$\mathbf{C}_{m{x}}$	\mathbf{M}_{x}	R_x	\boldsymbol{x}
10	76 084	1 716 653	33 050 827	450.69	18 033'01	598 994.78	10
11	73 060	1 640 569	31 334 174	435.45	17 582'32	580 961.77	11
12	70 154	1 567 509	29 693 605	419.45	17 146'87	563 379.45	12
13	67 363	1 497 355	28 126 096	404.65	16 727'42	546 232.58	13
14	64 680	1 429 992	26 628 741	390.37	16 322'77	529 505.16	14
15 16 17 18 19	62 103 59 625 57 244 54 956 52 757	1 365 312 1 303 209 1 243 584 1 186 340 1 131 384	25 198 749 23 833 437 22 530 228 21 286 644 20 100 304	377'16 364'41 352'63 340'70	15 932'40 15 555'24 15 190'83 14 838'20 14 497'50	513 182·39 497 249·99 481 694·75 466 503·92 451 665·72	15 16 17 18 19
20	50 643	1 078 627	18 968 920	319.02	14 168·32	437 168:22	20
21	48 612	1 027 984	17 890 293	309.64	13 849·30	422 999:90	21
22	46 658	979 372	16 862 309	299.62	13 539·66	409 150:60	22
23	44 781	932 714	15 882 937	290.80	13 240·04	382 370:94	23
24	42 975	887 933	14 950 223	282.24	12 949·24	382 370:90	24
25	41 240	844 958	14 062 290	274.74	12 667.00	369 421.66	25
26	39 571	803 718	13 217 332	267.03	12 392.26	356 754.66	26
27	37 966	764 147	12 413 614	259.91	12 125.23	344 362.40	27
28	36 422	726 181	11 649 467	253.70	11 865.32	332 237.17	28
29	34 937	689 759	10 923 286	247.26	11 611.62	320 371.85	29
30	33 508	654 822	10 233 527	241'99	11 364.36	308 760·23	30
31	32 133	621 314	9 578 705	236'47	11 122.37	297 395·87	31
32	30 810	589 181	8 957 391	231'37	10 885.90	286 273·50	32
33	29 537	558 371	8 368 210	227'27	10 654.53	275 387·60	33
34	28 311	528 834	7 809 839	223'18	10 427.26	264 733·07	34
35	27 130	500 523	7 281 005	219'40	10 204 08	254 305.81	35
36	25 993	473 393	6 780 482	215'90	9 984 68	244 101.73	36
37	24 898	447 400	6 307 089	213'20	9 768 78	234 117.05	37
38	23 843	422 502	5 859 689	210'70	9 555 58	224 348.27	38
39	22 826	398 659	5 437 187	208'37	9 344 88	214 792.69	39
40	21 846	375 833	5 038 528	206.45	9 136·51	205 447.81	40
41	20 901	353 987	4 662 695	204.89	8 930·06	196 311.30	41
42	19 989	333 086	4 308 708	203.89	8 725·17	187 381.24	42
43	19 109	313 097	3 975 622	202.94	8 521·28	178 656.07	43
44	18 260	293 988	3 662 525	202.24	8 318·34	170 134.79	44
45 46 47 48 49	17 440 16 648 15 883 15 144 14 428	275 728 258 288 241 640 225 757 210 613	3 368 537 3 092 809 2 834 521 2 592 881 2 367 124	202'18 202'55 203'11 203'94	8 116·10 7 913·92 7 711·83 7 509·28 7 306·17	161 816.45 153 700.35 145 786.43 138 074.60 130 565.32	45 46 47 48 49
50 51 52 53 54	13 737 13 067 12 419 11 791 11 183	196 185 182 448 169 381 156 962 145 171	2 156 511 1 960 326 1 777 878 1 608 497 1 451 535	205.00 206.26 207.68 209.56 211.36	7 102'23 6 897'23 6 690'97 6 483'29 6 273'73	123 259·15 116 156·92 102 568·72 96 085·43	50 51 52 53 54
<u> </u>		<u> </u>	NT - 1) + 1		l .	<u> </u>	

 $\mathbf{N}_x = \mathbf{D}_x + \mathbf{D}_{x+1} + \dots$

 $S_x = N_x + N_{x+1} + \dots$

 $O^{M(5)}$

COMMUTATION TABLE

31 PER 2 CENT

\boldsymbol{x}	$\mathbf{D}_{m{x}}$	N_x	S_x	\mathbf{C}_{x}	\mathbf{M}_{x}	R_x	\boldsymbol{x}
55 56 57 58	10 593. 9 467.7 8 930.3	133 988· 123 395· 113 372·6	1 306 364. 1 172 376. 1 048 981.3 935 608.7	213 ² 5 215 ¹⁸ 217 ² 9 219 ² 7	5 849 [·] 12 5 633 [·] 94 5 416 [·] 65	89 811.70 83 749.33 77 900.21 72 266.27	55 56 57 58
60 61 62 63	8 409.0 7 903.6 7 413.2 6 937.8 6 477.0	94 974.6 86 565.6 78 662.0 71 248.8 64 311.0	831 703 ⁸ 736 729 ² 650 163 ⁶ 571 501 ⁶ 500 252 ⁸	221'12 223'09 224'79 226'12 227'32		66 849.62 61 652.24 56 675.98 51 922.81 47 394.43	59 60 61 62 63
64 65 66 67 68	6 030.7 5 598.8 5 181.1 4 777.9 4 389.3	57 834.0 51 803.3 46 204.5 41 023.4 36 245.5	435 941.8 378 107.8 326 304.5 280 100.0 239 076.6	227.97 228.31 227.97 227.01 225.48	3 163.68	43 092'17 39 017'23 35 170'26 31 551'60 28 160'91	64 65 66 67 68
70 71 72 73	4 015.4 3 656.7 3 313.3 2 985.8 2 674.5	31 856 2 27 840 8 24 184 1 20 870 8 17 885 0	202 831·1 170 974·9 143 134·1 118 950·0 98 079·2	222'99 219'71 215'47 210'29 204'04	2 938·20 2 715·21 2 495·50 2 280·03 2 069·74	24 997 23 22 059 03 19 343 82 16 848 32 14 568 29	69 70 71 72 73
74 75 76 77 78	2 380·1 2 102·9 1 843·5 1 602·3 1 379·6	15 210 5 12 830 4 10 727 5 8 884 0 7 281 7	80 194.2 64 983.7 52 153.3 41 425.8 32 541.8	196.69 188.28 178.87 168.52	1 865.70 1 669.01 1 480.73 1 301.86 1 133.34	12 498·55 10 632·85 8 963·84 7 483·11 6 181·25	74 75 76 77 78
79 80 81 82 83	990'76 824'69 677'28 548'10	5 902 1 4 726 40 3 735 64 2 910 95 2 233 67	25 260'1 19 358'02 14 631'62	145'19 132'58 119'52 106'27 93'061	976·13 830·94 698·36 578·84 472·568	5 047'91 4 071'78 3 240'84 2 542'48 1 963'642	79 80 81 82 83
84 85 86 87 88	436.21 341.22 262.13 197.00	1 685·57 1 249·06 907·51 645·38	5 751·36 4 065·79 2 816·73 1 909·22	80·192 67·880 56·257 45·684	379 ⁵ 07 299 ³ 15 231 ⁴ 35 175 ¹ 78	1 491.074 1 111.567 812.252 580.817	84 85 86 87 88
89 90 91 92	144.66 103.58 72.177 48.763 31.916	448·38 303·72 200·138 127·961 79·198	1 263.84 815.46 511.738 311.600 183.639	36·182 27·903 20·973 15·198 10·728	129'494 93'312 65'409 44'436 29'238	405.639 276.145 182.833 117.424 72.988	89 90 91 92
93 94 95 96 97	20°109 12°217 7°082 4 3°936 5 2°061 6	47 [.] 282 27 [.] 173 14 [.] 955 7 7 ^{.8} 73 3 3 [.] 936 8	104'441 57'159 29'985'8 15'030 1 7'156 8	1.741.7	6·576 6 3·6 7 0 2 1·928 5	25°240 0 13°941 8 7°365 2 3°695 0	96 97
98 99 100 101 102	1 °030 3 °497 7 °224 4 °092 9 °029 9	1.875 2 .844 9 .347 2 .122 8	3 [.] 220 0 1 [.] 344 8 [.] 499 9 [.] 152 7 [.] 029 9	'497 7 '256 5 '123 9 '059 9	·966 9 ·469 2 ·212 7 ·088 8	1.766 5 .799 6 .330 4	98 99 100 101

$$\mathbf{N}_{x} = \mathbf{D}_{x} + \mathbf{D}_{x+1} + \dots$$

$$\mathbf{S}_{x} = \mathbf{N}_{x} + \mathbf{N}_{x+1} + \dots$$

 $\mathbf{O}^{\mathbf{M}(5)}$ logarithms and co-logarithms of D_x , N_x , C_x , M_x $\mathbf{3}_{2}^1$ per logarithms.

		1					r	-	
\boldsymbol{x}	$\log D_x$	$\log N_x$	$\log \mathbf{C}_x$	$\log M_x$	$\operatorname{col} \operatorname{D}_{x}$	$\operatorname{col} \mathbf{N}_x$	$\operatorname{col} \mathbf{C}_{x}$	$\operatorname{col} \mathbf{M}_x$	\boldsymbol{x}
10 11 12 13 14	4.881 29 .863 68 .846 05 .828 42 .810 77	6°234 68 °214 99 °195 21 °175 33 °155 34	2.653 88 .638 94 .622 68 .607 08	4.256 07 .245 08 .234 18 .223 43 .212 79	5.118 71 .136 32 .153 95 .171 58 .189 23	7.765 32 .785 01 .804 79 .824 67 .844 66	3·346 12 ·361 06 ·377 32 ·392 92 ·408 53	5'743 93 '754 92 '765 82 '776 57 '787 21	10 11 12 13 14
15 16 17 18 19	'793 11 '775 43 '757 73 '740 01 '722 28	'135 23 '115 01 '094 68 '074 21 '053 61	576 53 561 59 547 32 532 37 517 43	202 28 191 88 181 58 171 38	206 89 224 57 242 27 259 99 277 72	.864 77 .884 99 .905 32 .925 79 .946 39	423 47 438 41 452 68 467 63 482 57	797 72 ·808 12 ·818 42 ·828 62 ·838 71	15 16 17 18 19
20 21 22 23 24	'704 52 '686 74 '668 93 '651 09 '633 22	032 87 011 99 5 990 95 969 75 948 38	503 82 490 86 476 57 463 60 450 62	151 32 141 43 131 61 121 89 112 24	295 48 313 26 331 07 348 91 366 78	'967 13 '988 01 6'009 05 '030 25 '051 62	'496 18 '509 14 '523 43 '536 40 '549 38	·848 68 ·858 57 ·868 39 ·878 11 ·887 76	20 21 22 23 24
25 26 27 28 29	.615 32 .597 38 .579 39 .561 36 .543 28	'926 84 '905 10 '883 18 '861 04 '838 70	'438 92 '426 56 '414 82 '404 32 '393 15	·102 67 ·093 15 ·083 69 ·074 28 ·064 89	384 68 402 62 420 61 438 64 456 72	°073 16 °094 90 °116 82 °138 96 °161 30	561 08 573 44 585 18 595 68 606 85	906 85 906 85 916 31 925 72 935 11	25 26 27 28 29
30 31 32 33 34	'525 15 '506 95 '488 69 '470 36 '451 95	·816 12 ·793 31 ·770 25 ·746 92 ·723 32	383 80 373 78 364 30 356 54 348 66	°055 54 °046 20 °036 86 °027 53 °018 17	'474 85 '493 05 '511 31 '529 64 '548 05	183 88 206 69 229 75 253 08 276 68	616 20 626 22 635 70 643 46	'944 46 '953 80 '963 14 '972 47 '981 83	30 31 32 33 34
35 36 37 38 39	'433 45 '414 86 '396 17 '377 36 '358 43	699 42 675 22 650 70 625 83 600 60	341 24 334 26 328 79 323 66 318 84	008 77 3'999 33 989 84 980 26 '970 57	566 55 585 14 603 83 622 64 641 57	300 58 324 78 349 30 374 17 399 40	671 21 676 34 681 16	-991 23 4.000 67 -010 16 -019 74 -029 43	35 36 37 38 39
40 41 42 43 44	'339 37 '320 16 '300 79 '281 24 '261 50	574 99 548 99 522 56 495 68 468 33	'314 82 '311 53 '309 39 '307 36 '305 86	'960 78 '950 86 '940 78 '930 51 '920 04	.660 63 .679 84 .699 21 .718 76 .738 50	'425 01 '451 01 '477 44 '504 32 '531 67	685 18 688 47 690 61 692 64 694 14	039 22 049 14 059 22 069 49 079 96	40 41 42 43 44
45 46 47 48 49	'241 55 '221 37 '200 94 '180 23 '159 22	'440 48 '412 10 '383 17 '353 64 '323 49	'305 74 '305 55 '306 53 '307 73 '309 51	909 35 898 39 887 16 875 60 863 69	758 45 778 63 799 06 819 77 840 78	559 52 587 90 616 83 646 36 676 51	694 26 694 45 693 47 692 27 690 49	.090 65 .101 61 .112 84 .124 40 .136 31	45 46 47 48 49
50 51 52 53 54	137 87 116 17 094 08 071 56 048 55	'292 67 '261 14 '228 86 '195 79 '161 88	311 76 314 42 317 40 321 30 325 03	·851 39 ·838 67 ·825 49 ·811 80 ·797 53	·862 13 ·883 83 ·905 92 ·928 44 ·951 45	707 33 738 86 771 14 804 21 838 12	.688 24 .685 58 .682 60 .678 70 .674 97	148 61 161 33 174 51 188 20 202 47	50 51 52 53 54
L			TAT .	_D I T			<u> </u>		

 $N_x = D_x + D_{x+1} + \dots$ $S_x = N_x + N_{x+1} + \dots$

OM(5) LOGARITHMS AND CO-LOGARITHMS OF D_x , N_x , C_x , M_x $3\frac{1}{2}$ per cent.

		I							
\boldsymbol{x}	$\log D_x$	$\log N_x$	$\log C_x$	$\log M_x$	$\operatorname{col} \mathbf{D}_{\boldsymbol{x}}$	$\operatorname{col} \mathbf{N}_x$	$\operatorname{col} \mathbf{C}_x$	$\operatorname{col} \mathbf{M}_{x}$	\boldsymbol{x}
55	4'025 03	5'127 07	2.328 88	3.782 64	5'974 97	6.872 93	3.671 12	4.217 36	55
56	'000 95	.091 30	332 81	767 09	999 05	908 70	667 19	232 91	56
57	3.976 25	'054 51	337 04	750 81	4.023 75	945 49	662 96	249 19	57
58	950 87	016 64	340 98	733 73	049 13	983 36	659 62	266 27	58
59	924 75	4.977 61	344 63	715 78	075 25	5.022 39	655 37	284 22	59
60	897 82	937 35	348 47	.696 90	102 18	062 65	.651 53	.303 10	60
61	·870 OI	·895 77	351 77	676 99	129 99	104 23	648 23	323 01	61
62	841 22	852 78	354 33	655 94	158 78	147 22	645 67	344 06	62
63	811 37	808 29	356 63	633 70	188 63	19171	643 37	366 30	63
64	.780 37	762 18	357 87	610 12	'219 63	237 82	642 13	'389 88	64
65		•				285 65	641 47	·414 88	65
66	'748 09 '714 42	.714 35 .664 68	358 53 357 88	585 12	251 91 285 58		642 12	414 65	66
67	679 24	613 03	357 oc	558 55	320 76	335 3 ²	643 95	441 45	67
68	642 40	559 26	353 11	*530 29 *500 20	357 60	440 74	646 89	499 80	68
69	603 73	503 19	333 11	468 08	337 00	496 81	651 72	531 92	69
				-	436 91		658 16	·566 20	70
70 71	·563 o9	444 68	341 84	'433 8o		555 3 ²	666 62	602 84	71
72	.20 26	383 53	333 38	397 16	479 74	·68o 46	677 18	642 06	72
73	475 06 427 25	319 54	322 82	357 94	524 94	747 51	690 28	·684 o8	73
74	376 59	°252 49 °182 14	·309 72 ·293 78	'315 92 '270 84	'572 75 '623 41	817 86	706 22	729 16	74
					-		•		
75	322 82	108 24	274 80	222 46	677 18	·891 76	725 20	777 54	75
76	265 64	.030 20	252 54	170 48	734 36	-969 50	747 46	829 52	76
77		3.948 61	226 65	114 56	795 26	4.021 39	773 35	885 44	77
78 79	139 75	862 23	196 47	054 36	·860 25	137 77 228 99	·803 53 ·838 06	_ '945 64 3'010 49	78 79
	.070 30	771 01	-	2.989 21	·929 70 -		-		
80	2.992 97	674 53	122 47	919 57	3.004 03	325 47	.877 53	·080 43	80
81	916 29	572 36	'077 44	·844 o8	.083 71	427 64	922 56	155 92	81
82	830 77	464 04	026 42	762 56	169 23	535 96	_'973 5 ⁸	237 44	82 83
83 84	738 86	1	1.968 77	674 47	.360 01		2°031 23 °095 87	'325 53 '420 78	84
	639 99	226 75	904 13	579 22	_	773 25			
85	533 46	.096 58	831 74	476 13	466 54	903 42	168 26	523 87	85 86
86 87	418 51	2.957 85	750 18	364 43	.581 49	3.042 12	249 82	·635 57	87
88	294 47	809 82	659 76	243 48	.405 53	190 18	340 24	.756 52 .887 75	88
89	160 34 015 29	.651 65 .482 47	.558 49	112 25	·839 66 ·984 71	348 35	'441 51 '554 35	2.030 06	89
			445 65	1'969 94		517 53			- 1
90	1.858 40	301 33	321 67	815 64	2·141 60	698 67	678 33 818 21	184 36	90 91
91	.688 oo	107 07	181 79	·647 74	311 91	.892 93		352 26	92
92 93	.204 o1	1.898 71	.030 20	465 95	'495 99	2.101 50	.969 50 1.141 94	534 05 732 58	93
94	·303 39 ·086 97		0.858 06 674 0 9	267 42	.696 61	325 30 565 86	325 91	946 99	94
		'434 14		.053 01					. 1
95	0.820 18	17481			1'149 82	·825 19	536 65		95 96
96	.2595 11	0.896 16	-240 98 	·564 69		ī·103 84 ·404 86	759 02	'435 31 '714 78	97
97 98	'314 21 '012 97		7.983 oo	.285 22 1.985 38	·685 79 ·987 03	726 95	0°017 00 '303 00	0'014 62	98
99	1.697 00	.273 05 1.926 81	409 06		0.303 00	0.043 10	*590 94	328 64	99
			1	-		1			100
100	351 06	*540 58	-093 08	327 77	648 94	459 42	. 9 06 92		101
101 102	2·968 15			2'948 41	1.031 82	1.23 92	.238 86		102
102	4/0 08	2·476 o8	·461 14	'461 14	.23 92	1 323 92	220 00	220.00	

 $N_x = D_x + D_{x+1} + \dots$ $S_x = N_x + N_{x+1} + \dots$

 $O^{M(5)}$

VALUES OF a_x , A_x , P_x , AND OF \overline{a}_x , \overline{A}_x , \overline{P}_x

31 PER 22 CENT.

x	a_x	$\mathbf{A}_{\boldsymbol{x}}$	$P_{\boldsymbol{x}}$	$ar{a}_x$	$\overline{\mathbf{A}}_{m{x}}$	$\overline{\mathbf{P}}_{x}$	\boldsymbol{x}
10 11	21.263 21.422	°23 702 °24 066	*01 050 *01 072	22.060 21.025	'24 110 '24 482	'01 093	10 11
12	21'344	24 442	01 094	21.841	·24 864	.01 138	12
13	21.550	*24 832	'01 117	21.726	25 259	·01 163	13
14	21'109	·25 236	' 01 141	21.606	.25 672	.01 188	14
15	20.985	.25 652	·01 167	21'482	26 099	°01 215	15
16	20.857	·26 o89	OI 194	21.324	·26 539	·01 243	16
17	20'724	26 537	'OI 222	21'221	26 997	01 272	17 18
18 19	20°587 20°445	·27 000 ·27 480	'01 251 '01 281	21.084 20.942	·27 468	°01 303	19
i i	:				27 957	°01 335	
20	20,539	27 977	'01 314	20'796	28 459	·01 368	20 21
21 22	20'147	·28 490	°01 347	20.644	28 982	°01 404	22
23	19'990 19'829	°29 019	01 302	20'487 20'326	*29 522 *30 076	'01 441 '01 480	23
24	19.665	.30 131	·o1 458	20,120	30 650	01 520	24
25	19'489	.30 7 1 5	'01 499	19.986	°31 245	·01 563	25
26	19.311	31 316	01 542	19.808	31 858	°01 608	26
27	19.127	'31 937	·01 587	19.624	'32 49 I	·01 656	27
28	18.938	32 578	.01 634	19'435	'33 141	·01 705	28
29	18.743	'33 236	·01 683	19'240	.33 812	·01 757	29
30 .	18.242	33 915	·01 735	19.039	·34 50 3	01812	30
31	18.336	34 614	01 790	18.833	35 212	·01 870	31 32
32 33	18.123	35 332	01 848	18.619 18.400	'35 948	.01 931	33
34	17 . 904 17.680	'36 072 '36 832	'01 908 '01 972	18.176	'36 701 '37 472	01 995 02 062	34
35	17.449	37 611	.02 039	17.945	·38 267	·02 I 32	35
36	17.515	38 412	'02 109	17.708	39 082	'02 207	36
37	16.969	39 235	02 183	17.465	.39 918	·02 286	37
38	16.450	'40 077	02 262	17.216	40 775	·o2 368	38
39	16.465	·40 9 3 9	°02 344	16.961	41 652	·02 456	39
40	16.304	·41 823	·02 431	16.400	42 550	02 548	40
41	15.937	42 727	02 523	16.433	43 468	02 645	41
42	15.664	'43 651	.02 619	16.190	44 407	°02 748 °02 857	42 43
43 44	15.100 12.382	44 593	°02 722 °02 829	15.2881 15.296	'45 367 '46 348	02 057	44
	_	45 555	1 1				
45 46	14.810 14.214	.46 537	°02 944 °03 064	15.300 12.300	'47 345 '48 363	°03 093	45 46
47	14 514	'47 536 '48 553	03 004	14.709	49 399	.03 328	47
48	13.908	49 587	03 326	14'404	·50 448	03 502	48
49	13.297	.50 637	° 03 469	14.093	51 518	·03 656	49
50	13.585	.51 704	·03 620	13.778	•52 602	.03 818	50
51	12.963	52 784	·03 780	13'459	.23 699	.03 990	51
52	12.639	.53 878	.03 920	13.132	.54 814	'04 173	52
53 54	12'312	'54 984 '56 700	04 131	12.808	55 939	°04 367	53 54
54	11.982	.26 103	·04 322	12.478	·57 0 74	·04 574	04

 $O^{\mathbf{M}(5)}$

VALUES OF a_x , A_x P_x , and of \bar{a}_x , \overline{A}_x , \overline{P}_x

 $\mathbf{3}_{2}^{1}$ per

							,
\boldsymbol{x}	a_{x}	\mathbf{A}_{x}	P_x	$ar{a}_{m{x}}$	$\overline{\mathbf{A}}_{m{x}}$	$ar{ ext{P}_{x}}$	\boldsymbol{x}
EE	11.649	.57 228	:04 F2F	12'744	.58 223	'04 704	55
55			04 525	12'144 11'808		°04 794	56
56 57	11.313	·58 363	°04 740		59 379 60 543	05 029	57
58	10°975 10°635	'59 506 '60 654	04 969	11'470	60 542 61 711	05 278	58
59		·61 806	05 213	11,130	62 884	°05 545	59
	10.594		05 472	10'789		.05 829	
60	9.523	62 962	'05 748	10.448	.64 057	.06 131	60
61	9.611	64 118	'06 043	10,100	65 234	06 455	61
62	9.270	65 271	.06 356	9.764	66 410	.09 901	62
63	8.929	66 425	·06 690	9.423	67 583	'07 172	63
64	8.290	67 569	·07 046	9.084	·68 751	·o7 569	64
65	8.253	.68 712	.07 426	8.746	.69 911	.07 993	65
66	7.918	··69 844	07 832	8.411	71 064	08 449	66
67	7.586	76 966	·08 265	8.079	72 206	.08 937	67
68	7.258	72 078	·08 728	7.750	73 33 ⁸	09 463	68
69	6.933	73 173	'09 223	7.426	74 454	10 026	69
1 1	6.614		l I	7.106	75 556	10 633	70
70		74 252	°09 753		75 550 76 639	10 033	_
71	6.599	75 318	10 319	6'791		11 280	71
72	5.990	76 362	10 924	6'481	77 704		72
73	5.687	77 387	11 573	6.148	'78 748	12 747	73
74	5.39 I	.78 388	12 266	5.881	.79 769	13 564	74
75	2.101	79 367	.13 008	5.201	·8o 767	14 447	75
76	4.819	·80 323	.13 803	5.308	81 740	15 400	76
77	4.545	·81 249	14 654	5.033	·82 688	·16 431	77
78	4.278	·82 150	15 564	4.765	·83 607	17 54 5	78
79	4.020	·83 o25	·16 539	4.206	·84 498	18 752	79
80	3.770	·83 869	·17 581	4.256	·85 36o	120 058	80
81	3.230	·84 682	18 695	4.014	.86 191	21 473	81
82	3.58	85 465	19 885	3.781	·86 993	.23 008	82
83	3.072	·86 220	21 157	3.557	·87 763	24 673	83
84	2.861	·86 942	22 515	3'342	·88 504	'26 484	84
		·87 633			·89 212	128 450	
85	2.657	107 033	23 963	3.136	·89 889	30 583	85
86	2.462	·88 292	25 502	2.939			86
87	2.276	88 922	°27 143 °28 880	2.751	90 535	·32 906	87
88 89	2,100	'89 518 '90 084		2.23	91 149	'35 427 '38 171	88 89
	1.935		'30 723	2.403	91 733	· ·	1
90	1.423	·90 623	32 682	2'241	92 289	'41 173	90
91 ,	1.624	'91 128	34 727	2.000	92 810	44 404	91
92	1'481	.91 609	36 918	1'945	.93 310	'47 984	92
93	1,321	92 051	39 149	1,811	93 769	'51 769	93
94	1.554	92 478	'41 579	1.681	. 94 218	.26 022	94
95	1,115	·92 858	'43 973	1.264	94 618	·6o 478	95
96	1,000	·93 235	.46 612	1.449	.92 016	·65 582	96
97	.910	'93 543	48 987	1.324	95 343	'70 431	97
98	·820	93 845	51 562	1.529	95 668	'75 969	98
99	•698	·94 267	55 533	1,131	.96 108	·84 946	99
100	·547	94 779	61 262	. 975	·96 6 45	.99 110	100
101	322	95 556	72 312	.744	97 442	1.31 022	101
102	•000	96 618	.96 618	414	98 574	2.37 861	102
							<u> </u>

OM(5)

LOGARITHMS OF a_x , A_x , P_x , and of \overline{a}_x , \overline{A}_x , \overline{P}_x

31 PER 22 CENT

$\begin{array}{c ccccccccccccccccccccccccccccccccccc$								
11	\boldsymbol{x}	$\log a_x$	$\log A_x$	$\log P_x$	$\log \overline{a}_x$	$\log \overline{\mathrm{A}}_x$	$\log \overline{\mathrm{P}}_x$	x
12 349 16 388 13 038 97 333 98 395 57 056 29 12 13 344 57 402 02 057 45 334 57 409 46 074 89 14 16 342 12 409 17 067 05 332 07 416 62 084 54 15 16 339 58 416 45 076 87 329 48 423 88 094 40 16 17 336 95 423 85 086 90 326 77 431 32 104 56 17 18 334 20 431 37 097 17 322 95 446 49 125 48 18 20 328 35 446 80 118 45 317 98 454 22 136 24 20 21 325 25 446 68 140 66 314 48 470 15 158 66 22 23 318 66 470 80 152 14 308 55 478 82 1710 17 23 24 315 16 479 92 163 86 304 47 486 43 118 96 149 478 194 97			*381 40					
13	12	349 16	388 13	038 97				12
14								
16 339 58 346 45 976 87 329 48 324 38 994 40 16 17 336 95 423 85 986 90 326 77 431 32 104 56 17 18 334 20 431 37 997 17 323 95 438 83 114 88 18 19 331 33 343 90° 107 68 321 02 446 49 125 48 19 20 328 35 446 68 118 45 317 98 454 22 136 24 20 21 322 02 462 68 140 66 311 48 470 15 158 66 22 23 318 66 470 80 152 14 308 05 478 22 170 17 23 24 315 16 479 02 168 66 304 47 486 43 184 96 24 25 311 52 487 35 175 83 300 73 494 78 194 07 28 26 307 72 495 77 188 05 296 84 503 22 206 37 26 27 303 79 504 30 200 51 292 79 511 76 218 98								
17 336 95						416 62		
18 334 20 431 37 '007 17 '323 95 '438 83 '114 88 18 19 '331 33 '439 01 '107 68 '321 02 '446 49 '125 48 19 20 '328 35 '446 80 '118 45 '317 98 '454 22 '136 24 20 21 '325 25 '454 69 '129 44 '314 79 '462 13 '147 34 21 22 '322 02 '462 68 '140 66 '311 48 '470 15 '158 66 22 23 '318 66 '470 80 '152 14 '308 05 '478 22 '170 17 23 24 '315 16 '479 02 '163 86 '304 47 '486 43 '181 96 24 25 '311 52 '487 35 '175 83 '300 73 '494 78 '194 07 25 26 '307 72 '495 77 '188 05 '296 84 '503 22 '206 37 26 27 '303 79 '504 30 '200 51 '292 79 '517 76 '218 98 27 28 '299 68 '512 92 '213 24 '288 58 '520 37 '231 78 28 29 '29 97 '530 39 '239 42 '279 64 '537 86 '258 21<				070 87				
19								17
20 328 35		334 20	'431 37	'097 17	'3 23 95	43883	114 88	18
21	19	i		1 -	,	. 446 49	125 48	19
22 '322 oz '462 68 '140 66 '311 48 '470 15 '158 66 22 23 '318 66 '470 80 '152 14 '308 05 '478 22 '170 17 23 24 '315 16 '479 02 '163 86 '304 47 '486 43 '181 96 24 25 '311 52 '487 35 '175 83 '300 73 '494 78 '194 07 25 26 '307 72 '495 77 '188 05 '296 84 '503 22 '206 37 26 27 '303 79 '504 30 '200 51 '292 79 '511 76 '218 98 27 28 '299 68 '512 92 '213 24 '288 58 '520 37 '231 78 28 290 4 '521 61 '226 19 '284 21 '529 07 '244 87 29 30 '290 97 '530 39 '239 42 '279 64 '537 86 '258 21 30 31 '286 36 '539 25 '252 89 '274 92 '546 69 '271 77	20	328 35	'446 80		.317 98	454 22	136 24	20
22 '322 oz '462 68 '140 66 '311 48 '470 15 '158 66 22 23 '318 66 '470 80 '152 14 '308 05 '478 22 '170 17 23 24 '315 16 '479 02 '163 86 '304 47 '486 43 '181 96 24 25 '311 52 '487 35 '175 83 '300 73 '494 78 '194 07 25 26 '307 72 '495 77 '188 05 '296 84 '503 22 '206 37 26 27 '303 79 '504 30 '200 51 '292 79 '511 76 '218 98 27 28 '299 68 '512 92 '213 24 '288 58 '520 37 '231 78 28 290 4 '521 61 '226 19 '284 21 '529 07 '244 87 29 30 '290 97 '530 39 '239 42 '279 64 '537 86 '258 21 30 31 '286 36 '539 25 '252 89 '274 92 '546 69 '271 77	21	325 25	454 69	129 44	'314 79	462 13	147 34	21
28	22	322 02	·462 68	140 66	'311 48		158 66	22
24 '315 16 '479 02 '163 86 '304 47 '486 43 '181 96 24 25 '311 52 '487 35 '175 83 '300 73 '494 78 '194 07 25 26 '307 72 '495 77 '188 05 '296 84 '503 22 '206 37 28 27 '303 79 '504 30 '200 51 '292 79 '511 76 '218 98 27 28 '299 68 '512 92 '213 24 '288 58 '520 37 '231 78 28 29 '295 42 '521 61 '226 19 '284 21 '529 07 '244 87 29 30 '290 97 '530 39 '239 42 '279 64 '537 86 '258 21 30 31 '286 36 '539 25 '252 89 '274 92 '546 69 '271 77 31 32 '281 56 '557 17 '280 61 '269 96 '555 67 '285 71 32 33 '276 56 '557 17 '280 61 '264 82 '326 48 <	23		470 80					
26 '307 72 '495 77 '188 05 '296 84 '503 22 '206 37 26 27 '303 79 '504 30 '200 51 '292 79 '511 76 '218 98 27 28 '299 68 '512 92 '213 24 '288 58 '520 37 '231 78 28 29 '295 42 '521 61- '226 19 '284 21 '529 70 '244 87 29 30 '290 97 '530 39 '239 42 '279 64 '537 86 '258 21 30 31 '286 36 '539 25 '252 89 '274 92 '546 69 '271 77 31 32 '281 56 '548 17 '266 61 '269 96 '555 67 '285 71 32 38 '276 56 '557 17 '28 61 '264 82 '564 68 '299 86 33 34 '271 37 '566 22 '294 85 '253 94 '582 82 '328 87 35 36 '265 97 '575 32 '309 35 '253 94 '582 82 <								
26 '307 72 '495 77 '188 05 '296 84 '503 22 '206 37 26 27 '303 79 '504 30 '200 51 '292 79 '511 76 '218 98 27 28 '299 68 '512 92 '213 24 '288 58 '520 37 '231 78 28 29 '295 42 '521 61- '226 19 '284 21 '529 70 '244 87 29 30 '290 97 '530 39 '239 42 '279 64 '537 86 '258 21 30 31 '286 36 '539 25 '252 89 '274 92 '546 69 '271 77 31 32 '281 56 '548 17 '266 61 '269 96 '555 67 '285 71 32 38 '276 56 '557 17 '28 61 '264 82 '564 68 '299 86 33 34 '271 37 '566 22 '294 85 '253 94 '582 82 '328 87 35 36 '265 97 '575 32 '309 35 '253 94 '582 82 <	25	31152	·487 35	17583	*300 73	404 78	104 07	25
27	1							
28 '299 68 '512 92 '213 24 '288 58 '520 37 '231 78 28 29 '295 42 '521 61- '226 19 '284 21 '529 07 '244 87 29 30 '290 97 '530 39 '239 42 '279 64 '537 86 '258 21 30 31 '286 36 '539 25 '252 89 '274 92 '546 69 '271 77 31 32 '281 56 '548 17 '266 61 '269 96 '555 67 '285 71 32 38 '276 56 '557 17 '280 61 '264 82 '564 68 '299 86 33 34 '271 37 '566 22 '294 85 '259 50 '573 71 '314 20 34 35 '265 97 '575 32 '309 35 '253 94 '582 82 '328 87 35 36 '264 97 '354 47 '324 11 '248 17 '501 98 '343 80 36 37 '254 53 '593 67 '339 14 '242 17 '601 17								
29 '295 42 '521 61- '226 19 '284 21 '529 07 '244 87 29 30 '290 97 '530 39 '239 42 '279 64 '537 86 '258 21 30 31 '286 36 '539 25 '252 89 '274 92 '546 69 '271 77 31 32 '281 56 '548 17 '266 61 '269 96 '555 67 '285 71 32 33 '276 56 '557 17 '280 61 '264 82 '564 68 '299 86 33 34 '271 37 '566 22 '294 85 '259 50 '573 71 '314 20 34 35 '265 97 '575 32 '309 35 '253 94 '582 82 '328 87 35 36 '260 36 '584 47 '32411 '248 17 '601 17 '359 00 37 38 '248 47 '602 90 '354 43 '223 94 '610 39 '374 46 38 39 '242 17 '612 14 '385 79 '222 72 '628 90 <	K .				292 /9 288 c8			
30 '290 97 '530 39 '239 42 '279 64 '537 86 '258 21 30 31 '286 36 '539 25 '252 89 '274 92 '546 69 '271 77 31 32 '281 56 '548 17 '266 61 '269 96 '555 67 '285 71 32 33 '276 56 '557 17 '280 61 '264 82 '564 68 '299 86 33 34 '271 37 '566 22 '294 85 '259 50 '573 71 '314 20 34 35 '265 97 '575 32 '309 35 '253 94 '582 82 '328 87 35 36 '260 36 '584 47 '324 11 '248 17 '591 98 '343 80 36 37 '254 53 '593 67 '339 14 '242 17 '601 17 '359 00 37 38 '248 47 '602 90 '354 43 '235 93 '610 39 '374 46 38 39 '242 17 '612 14 '369 97 '229 45 '619 64 '390 18 39 40 '235 62 '621 41 '385 79 <t< th=""><th></th><th></th><th></th><th></th><th>200 50</th><th></th><th></th><th></th></t<>					200 50			
31 '286 36 '539 25 '252 89 '274 92 '546 69 '271 77 31 32 '281 56 '548 17 '266 61 '269 96 '555 67 '285 71 32 33 '276 56 '557 17 '280 61 '264 82 '564 68 '299 86 33 34 '271 37 '566 22 '294 85 '259 50 '573 71 '314 20 34 35 '265 97 '575 32 '309 35 '253 94 '582 82 '328 87 35 36 '260 36 '584 47 '324 11 '248 17 '601 17 '359 00 37 38 '245 53 '593 67 '339 14 '242 17 '601 17 '359 00 37 38 '248 47 '602 90 '354 43 '235 93 '610 39 '374 46 38 39 '242 17 '612 14 '369 97 '229 45 '619 64 '390 18 39 40 '235 62 '621 41 '385 79 '222 72 '628 90 '406 18 40 41 '228 83 '630 70 '418 22 <t< th=""><th>B</th><th></th><th> -</th><th>1</th><th></th><th>1</th><th>l</th><th></th></t<>	B		-	1		1	l	
32 '281 56 '548 17 '266 61 '269 96 '555 67 '285 71 32 33 '276 56 '557 17 '280 61 '264 82 '564 68 '299 86 33 34 '271 37 '566 22 '294 85 '259 50 '573 71 '314 20 34 35 '265 97 '575 32 '309 35 '253 94 '582 82 '328 87 35 36 '260 36 '584 47 '324 11 '248 17 '591 98 '343 80 36 37 '254 53 '593 67 '339 14 '242 17 '601 17 '359 00 37 38 '248 47 '602 90 '354 43 '235 93 '610 39 '374 46 38 39 '242 17 '612 14 '385 79 '222 72 '628 90 '406 18 40 41 '228 83 '630 70 '401 87 '215 72 '638 17 '422 46 41 42 '221 77 '639 99 '418 22 '208 44 '647 45 '439 02 42 43 '214 44 '649 27 '434 83 <t< th=""><th></th><th></th><th></th><th></th><th></th><th>537 86</th><th></th><th>30</th></t<>						537 86		30
38 '276 56 '557 17 '280 61 '264 82 '564 68 '299 86 33 34 '271 37 '566 22 '294 85 '259 50 '573 71 '314 20 34 35 '265 97 '575 32 '309 35 '253 94 '582 82 '328 87 35 36 '260 36 '584 47 '324 11 '248 17 '591 98 '343 80 36 37 '254 53 '593 67 '339 14 '242 17 '601 17 '359 00 37 38 '248 47 '602 90 '354 43 '235 93 '610 39 '374 46 38 39 '242 17 '612 14 '369 97 '229 45 '619 64 '390 18 39 40 '235 62 '621 41 '385 79 '222 72 '628 90 '406 18 40 41 '228 83 '630 70 '401 87 '215 72 '638 17 '422 46 41 42 '221 77 '639 99 '418 22 '208 44 '647 45 '439 02 42 43 '214 44 '649 27 '434 83 <t< th=""><th></th><th></th><th>*539 ²5</th><th></th><th></th><th>·546 69</th><th>271 77</th><th>31</th></t<>			*539 ² 5			·546 69	271 77	31
34 '271 37 '566 22 '294 85 '259 50 '573 71 '314 20 34 35 '265 97 '575 32 '309 35 '253 94 '582 82 '328 87 35 36 '260 36 '584 47 '324 11 '248 17 '591 98 '343 80 36 37 '254 53 '593 67 '339 14 '242 17 '601 17 '359 00 37 38 '248 47 '602 90 '354 43 '235 93 '610 39 '374 46 38 39 '242 17 '612 14 '369 97 '229 45 '619 64 '390 18 39 40 '235 62 '621 41 '385 79 '222 72 '628 90 '406 18 40 41 '228 83 '630 70 '401 87 '215 72 '638 17 '422 46 41 42 '221 77 '639 99 '418 22 '208 44 '647 45 '439 02 42 43 '214 44 '649 27 '434 83 '200 88 '656 74 '455 86 43 44 '206 83 '667 80 '468 87 <t< th=""><th>32</th><th>281 56</th><th>'548 17</th><th></th><th>·269 96</th><th>.555 67</th><th>.285 71</th><th>32</th></t<>	32	281 56	'548 17		·2 69 9 6	.555 67	.285 71	32
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45	43		649 27	'434 83	'200 88	656 74	455 86	43
46 '190 73 '677 02 '486 29 '176 38 '684 51 '508 14 48 47 '182 23 '686 22 '503 99 '167 58 '693 72 '526 13 47 48 '173 41 '695 37 '521 96 '158 48 '702 84 '544 37 48 49 '164 27 '704 47 '540 20 '149 00 '711 96 '562 96 49 50 '154 80 '713 52 '558 72 '139 19 '721 00 '581 81 50 51 '144 97 '722 50 '577 53 '129 01 '729 97 '600 95 51 52 '134 78 '731 41 '596 63 '118 43 '738 89 '620 46 52 53 '124 23 '740 24 '616 01 '107 48 '747 71 '640 23 58	44	-			•	i	·473 02	.44
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48 '173 41 '695 37 '521 96 '158 48 '702 84 '544 37 48 49 '164 27 '704 47 '540 20 '149 00 '711 96 '562 96 49 50 '154 80 '713 52 '558 72 '139 19 '721 00 '581 81 50 51 '144 97 '722 50 '577 53 '129 01 '729 97 '600 95 51 52 '134 78 '731 41 '596 63 '118 43 '738 89 '620 46 52 53 '124 23 '740 24 '616 01 '107 48 '747 71 '640 23 53								47
49 '164 27 '704 47 '540 20 '149 00 '711 96 '562 96 49 50 '154 80 '713 52 '558 72 '139 19 '721 00 '581 81 50 51 '144 97 '722 50 '577 53 '129 01 '729 97 '600 95 51 52 '134 78 '731 41 '596 63 '118 43 '738 89 '620 46 52 53 '124 23 '740 24 '616 01 '107 48 '747 71 '640 23 58		, ,		1 0 0 7 2				
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51 '144 97 '722 50 '577 53 '129 01 '729 97 '600 95 51 52 '134 78 '731 41 '596 63 '118 43 '738 89 '620 46 52 58 '124 23 '740 24 '616 01 '107 48 '747 71 '640 23 58	50	154 80	713 52	.558 72	.139 19	.721 00		
52 '134 78 '731 41 '596 63 '118 43 '738 89 '620 46 52 58 '124 23 '740 24 '616 01 '107 48 '747 71 '640 23 58	51			577 53	129 01	729 97	·600 95	51
58 124 23 740 24 616 01 107 48 747 71 640 23 58								52
								53
							.660 30	
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logarithms of a_x , A_x , P_x , and of \overline{a}_x , \overline{A}_x , \overline{P}_x

 $3\frac{1}{2}$ PER

\boldsymbol{x}	$\log \mathbf{a}_x$	$\log A_x$	$\log P_x$	$\log\overline{a}_x$	$\log \overline{\mathbf{A}}_{x}$	$\log \overline{\overline{\mathrm{P}}}_{x}$	x
55	1.105 04	ī·757 61	2.655 57	1.084 36	<u>1</u> .765 10	2·68o 73	55
56	.090 32	.766 14	675 79	.072 18	773 63	'701 46	56
57	.078 26	774 56	.696 30	.059 56	782 06	722 49	57
58	'065 77	782 86	717 09	'046 50	790 36	743 87	58 59
59	·052 86	'791 03	.738 17	·032 98	798 54	765 56	
60	039 53	•799 o8	759 55	.019 03	.806 57	[.] 7 ⁸ 7 54	60
61	.025 76	·8o6 98	781 22	.004 28	.814 47	.809 90	61
62	.011 26	.814 72	.803 16	0.989 64	822 23	832 60	62
63	0.996 95	.822 33	825 41	974 20	.829 84	855 63	63
64	.98181	·829 75	^{.8} 47 94	·958 2 6	·837 28	·879 o2	64
65	·966 26	·837 o3	·870 77	941 82	·844 55	·902 73	65
66	950 26	·844 13	893 87	·924 86	851 65	·926 78	66
67	933 79	.851 02	917 26	'907 37	858 57	951 21	67
68	916 86	.857 80	940 94	·889 32	.865 33	_ 976 01	68
69	·899 46	·864 35	·964 89	·870 75	.871 89	1.001 13	69
70	·881 59	870 71	989 12	·851 60	.878 27	·026 66	70
71	*863 27	876 90	1.013 63	.831 91	884 45	·052 54	71
72	·844 48	1882 88	'038 40	81165	·890 44	.078 78	72
73	825 24	·888 67	.063 43	.790 83	896 24	105 41	73
74	805 55	894 25	.088 20	.769 44	·901 83	132 39	74
75	.785 42	·899 64	114 22	'747 47	907 23	159 78	75
76	•764 86	904 84	139 98	724 91	912 44	187 52	76
77	.743 87	909 82	165 95	·70i 78	917 44	215 66	77
78	722 48	91461	192 13	678 09	922 24	'244 15	78
79	700 71	91921	218 50	·653 8í	926 85	273 05	79
80	678 56	923 60	245 04	·628 96	'931 25	302 29	80
81	656 07	927 79	271 72	603 58	935 46	331 89	81
82	633 27	931 79	298 52	.222 61	939 48	361 88	82
83	610 16	935 61	325 45	.221 08	943 31	392 22	83
84	.586 76	939 23	352 47	.523 98	946 96	422 98	84
85	.263 12	942 67	379 55	496 35	950 42	454 08	!
86	503 12		379 55 406 58	490 33 468 23	953 71	485 48	85
87		945 92	433 66	439 54	956 82	• '517 28	86 87
88	'515 35 '491 31	949 01	'460 60	439 54	959 75	549 33	88
89	467 18	954 65	487 47	380 79	959 73	581 73	89
90	1			1	965 15	61461	
91	'442 93 '41 8 98	957 24	514 31	'350 54	967 59	647 42	90
92		'959 65 '961 94	'540 67 '567 24	'320 17 '288 83	969 93	681 10	91
93	394 70	964 03	507 24	·257 99	909 93	714 07	92 93
94	'371 31 '347 17	966 04	618 87	257 59	972 33	·748 61	94
	1					1	
95 96	324 63	967 82	643 19	194 38	975 97	'781 60	95
96 97	301 05	'969 58	668 53	.191 01	977 80	'816 79 '847 76	96 97
98	.280 93 .260 08	971 01	690 08	'131 52 '100 13	979 29	·880 64	98
99	·229 81	972 41	712 33	053 62	982 76	'929 14	99
i i		974 36	744 55				
100	189 52	976 71	.787 19	1.080 oe	985 18	996 12	100 101
101	121 05	'980 26	·859 21	·871 30	'988 75	0'117 44	101
102	.000 00	·985 o6	.985 06	.617 44	.993 76	376 32	102

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VALUES OF TEMPORARY ANNUITIES OF 1

Dura-	10	11	12	13	14	15	16	17	18	19	Dura-
tion.	21.563	21.455	21.344	21.229	21·109	20.985	20.857	20-724	20.587	20.445	tion.
0	.000	.000	.000	.000	.000	.000	.000	.000	.000	*000	0
1	.960	.960	960	.960	•960	.960	.960	.960	.960	.960	1
2	1.882	1.882	1.882	1.885	1.882	1.882	1.882	1.882	1.881	1.881	2
3	2.768	2.768	2.767	2.767	2.767	2.767	2.767	2.766	2.766	2.766	8
4	3.618	3.618	3.017	3.617	3.617	3.616	3.010	3.616	3.612	3.012	4
5	4'434	4.434	4'433	4'433	4'432	4'432	4'431	4'431	4.430	4.429	5
6 7	5.518	5°217	5°217	5.316 2.316	5.967	5.312 2.312	5°965	5'964	5.365 2.315	5.361	6 7
8	6.692	6.603	9.691	6.689	6.688	6.687	6.686	6.684	6.685	6.681	8
9	7:386	7.385	7.384	7.382	7.381	7:379	7.377	7.375	7'373	7'371	9
10	8.051	8.050	8.049	8.047	8.045	8.043	8.041	8.039	8.036	8.033	10
1	8.690	8.689	8.687	8.685	8.683	8.680	8.678	8.675	8.672	8.668	1
2	9'304	9.302	9.300	9.297	9.294	9.291	9.288	9.285	9.281	9.277	2
3	9.892	9.890	9.887	9.884	9.881	9.878	9.874	9.870	9.866	9.861	3
4	10'457	10.454	10.451	10.448	10.442	10.441	10.436	10.433	10.427	10.421	4
15	10,030	10.036	10.993	10.089	10.082	10.080	10.972	10.970	10.964	10.928	15
6	11.219	11.216	11.215	11.202	11.203	11.497	11.492	11.486	11.479	11.472	6
7	12.018	12'014	12.010	12.002	11.999	11.994	11'987	11,081	11.973	11.965	7
8 9	12.497	12'492	12.487	12.482	12.476	12.469	12.462	12'455	12.446	12.437	8
	12.956	12.951	12.945	12.939	12.933	12.925	!		**		1
20 1	13.396	13,391	13.385	13.378	13.370	13.362	13.353	13.344	13.333	13.321	20
2	13.819	13.812	13.806	13.798	13.790	13.780	13.771	13'760	13.748	13.735	2
3	14.612	14.604	14.596	14.587	14.27	14.262	14.223	14'540	14.26	14.210	3
4	14.984	14'976	14.966	14'956	14.942	14'933	14'920	14'906	14.890	14.873	4
25	15'341	15.331	15.321	15.310	15.298	15.582	15.270	15.255	15.238	15.510	25
6	15.682	15.672	15.661	15.649	15.636	15.621	15.606	15.289	15.240	15.249	6
7	16.000	15.998	15.987	15.973	15.959	15.943	15.926	15.908	15.887	15.865	7
8	16.323	16.311	16.598	16.584	16.568	16.51	16.535	16.515	16.130	16.166	8
9	16.623	16.610	16.296	16.280	16.263	16.242	16.22	16.203	16.479	16.453	9
30	16.910	16.896	16.881	16.864	16.846	16.826	16.804	16.481	16.755	16.727	30
1	17.185	17.170	17.123	17.132	17.112	17.094	17.070	17.045	17.017	16.987	1
2	17.447	17.431.	17.413	17:394	17.373	17:349	17:324	17:297	17.267	17.235	3
3 4	17.699	17.681	17.662	17.641 17.877	17.618 17.852	17.593	17.566	17.537	17.202	17.470	4
_	17.939	17.920					17.797		,		
35 6	18·168 18·387	18·148 18·365	18.126 18.342	18.31 9	18°076 18°288	18.047	18.016 18.524	17.982 18.188	17'946 18'149	17.905	35 6
7	18.292	18.572	18.242	18.20	18.490	18.457	18.422	18.384	18.342	18.500	7
8	18.794	18.770	18.743	18.714	18.683	18.647	18.610	18.269	18.24	18.476	8
9	18.984	18.958	18.929	18.898	18.864	18.827	18.787	18.744	18.696	18.645	9
40	19'165	19'137	19.106	_	19.037	18.998	18.955	18.909	18.859	18.804	40
1	19.336	19.307	19.275	19.539	19.201	19.159	19'114	19.065	19.013	18.954	1
2	19.200	19.468	19.434	19.396				19.515	19.126	19.092	2
3	19.655	19.621	19.282	19.545	19.202		19:405	19.350	19.291	19.556	8
4	19.802	19.766	19.728	19.686		19.291		19.480		19.349	
45	19'941	19.903	19.863	19.818		19.718	19.665	19.601	19.235	19.463	45
6	20'073	20'033	19.990	19'943						19.269	6 7
7 8	20'197	20'155	20'110	20.060		19'949	19.887	19.819	19.746	19.668	8
9	20,314	20.378	20.338	20.170		20.120	20.085	50.008	19.928	19.841	9
<u> </u>		3/5									
	10	II	12	13	14	15	16	17	18	19	

 $\mathbf{OM}(5)$

VALUES OF TEMPORARY ANNUITIES OF 1

Dura-	20	21	22	23	24	25	26	27	28	29	Dura-
tion.	20.299	20·147	19.990	19.829	19.662	19.489	19-311	19·127	18.938	18.743	tion.
0	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	0
1	'960	.960	.960	.960	•960	•960	959	'95 9	. 959	959	1
2	1.881	1.881	1.881	1.881	1.880	1.880	1.880	1.880	1'879	1.879	2
8	2.765	2.765	2.765	2.764	2.764	2.763	2.763	2.762	2.461	2.761	3
4	3.614	3.613	3.613	3.612	3.911	3.010	3.010	3.608	3.607	3.606	4
5 6	4.428 2.510	4'427 5'208	4'427 5'207	4'425 5'206	4'424 5'204	4'423	4'422	4'420	4.418	4'417	5
7	5.959	5.958	5.956	5.954	5.952	5°202 5°949	5.500	5.198	5.196	5.193	6
8	6.679	6.676	6.674	6.671	9.669	6.665	5°947 6°662	6.658	5°941 6'654	5°937 6°650	7 8
9	7.368	7.366	7.363	7.359	7.356	7.352	7.348	7'343	7.338	7'332	9
10	8.030	8.027	8.023	8.019	8.012	8.010	8.002	7'999	7.992	7.985	10
1	8.665	8.660	8.656	8.651	8.646		8.634	8.627	8.619	8.611	ĩ
2	9.273	9.268	9.263	9.257	9.251		9.236	9.228	9.219	0,510	2
8	9.856	9.850	9.844	9.837	9.830	9.822	9.813	9.803	9.793	9.781	3
4	10.412	10,400	10,403	10,393	10.382	10.375	10.362	10.324	10.342	10.328	4
15	10'951	10.943	10.935	10.036	10.916	10.902	10.893	10.880	10.866	10.821	15
6	11.464	11.455	11'446	11.436	11'425		11.398	11.384	11.368	11.320	6
7	11,020	11.946	11.935		11,011	11.897	11.881	11.865	11.846	11.827	7
8	12'427	12.415	12'404	1 2	12.376	12.360	12.343	12'324	12'304	12.581	8
9	12.877	12.865	12.852	12.837	12.831	12.803	12.784	12.763	12.40	12.412	9
20	13.300	13.502	13.580		13.546	13.556	13.504	13.181	13.122	13.128	20
1 1	13'722	13.406	13.690			13.629	13.606	13.280		13.21	1
2	14.116	14.099	14.081	14.061	14.039	14.012	13.088		13.929	13.895	2
3 4	14'494	14.475	14.455	14'432		14.382	14.323	14.322	14.287	14.50	3
	14.824	14.833	14.811		14.761	14.732		14.666	14.628	14.288	4
25	15.198	15.176	15.125	15'125	15.097	15.062	12.030	14.993	14.952	14.908	25
6 7	15.27	15.203	15.476			15.382	15.344	15.303	15.259	15.511	6
8	16.140	15.814	15.486	15.754	16.000	15.683	15.642		15.220	15.498	7 8
9	16.425	16.394	16.360	16.323	16.584	15.969 16.340	16.195	15.877	15.825	15.769	9
30	16.696	16.662	16.626		16.244	16.492	16.446	16.390	16.330	16.562	30
ľil	16.924	16.018	16.879		16.400	16.740	16.685			16.491	1
2	17.199	17.160	17.110		17.024		16.911		16.778	16.491	2
3	17.432	17.390	17.346	,	17.244	17.186	17.153	17.055	16.085	16.005	3
4	17.653	17.608	17.261			17.390	17.323	17.250	17.172	17.088	4
35	17.862	17.815	17'763	17.707	17.647	17.581		17.433	17.350	17.260	35
6	18.060	18.009	17.955	17.895	17.831	17.761	17.686		17.216	17'420	В
7	18.247	18.193	18.132	18.072	18.004	17.929	17.849	17.763	17.669	17.569	7
8	18.423	18.366	18.304			18.086	18.003	17.910	17.812	17.705	8
9	18.289	18.229	18.463	18.392	1	18.533	18.143	18.047	17.943	17.831	9
40	18.745	18.681	18.612		18.456	18.368		18.172	18.063	17.946	40
		18.824	18.751			18.494		18.588		18.020	1
2	19.029		18.880			18.610				18.146	2
3 4	19.157	19.081	10,000			18.716	18.607	18.490	18.365	18.231	3
			19,111	1	18.920		18.700	18.577	18.447	18.308	4
45		19,303	19'214		19'014	18.902				18.376	45
8 7	19.489		19.308			18.083				18.436	6
	19.670	19'491	19.394	-	19'176	19.022	18.926	18.789	18.643	18.489	7 8
	19.749	19.649	19 4/2	19 302	19.308		19.040	18.893	18.738	18.574	9
	20	21	22	23	24	25	26	27	28	29	_
				-3	-4	- 5	20	-/	20	29	

 $O^{\mathbf{M}(5)}$

VALUES OF TEMPORARY ANNUITIES OF 1

Dura-	30	31	32	33	34	35	36	37	38	39	Dura-
tion.	18.542	18:336	18-123	17:904	17.680	17:449	17.212	16.969	16.720	16:465	tion.
0	.000	.000	.000	.000	.000	.000	,000	.000	.000	.000	0
1	*959	'959	959	.958	958	.958	.958	958	'957	'957	1
2	1.878	1.878	1.878	1.877	1.876	1.876	1.875	1.874	1.874	1.873	2
8	2.760	2.759	2.758	2.757	2.756	2.422	2.753	2.425	2.420	2.748	3
4	3.605	3.603	3.602	3.600	3.298	3.296	3.294	3.291	3.289	3.286	4
5	4.414	4'412	4.410	4'407	4'404	4,401	4.398	4.394	4.390	4.386	5
6	2.190	5.187	5.184	5.180	5.176	5.172	5.164	5.165	5.126	5.120	в
7	5.933	5.929	5.925	5.920	5.914	5.908	5.902	5.895	5.887	5.879	7
8 9	6.645	6.640	6.634	6.627	6.620	6.613 7.286	6.605	6.292	6.286	6.272	8
	7:326	7.319	7.312	7:304	7.295	•	7.275	7.264	7.252	7.238	9
10	7.978	7:970	7.961	7.951	7:940	7.929	7.916	7:902	7.887	7.870	10
1	8.602	8.592	8.281	8.269	8.556	8·542 9·128	8.527	8.210	8.492	8.472	1
3	9°198	9.187	9°174 9°740	9°160 9°723	9'144 9'705	9.686	9.662	9.090	6.019 6.068	9.045	3
4	10.314	9°755 10°298	10.580	10.561	10.540	10.518	10.193	10.199	- 1	9.289	4
									٠ ١		
15	10.834	10.819	10.796	10.774	10.750	10'724	10.696	10.662	10.632	10.292	15
6 7	11.331	11.310	11.287	11.262	11.692	11.664	11'174	11.139	11,101	11.059	6 7
ន	11.805	12,530	11.755	11.727	12.132	12.008	12.024	11.288	11.245	11.498	8
9	12.687	12.658	12.625	13.200	12.223	12,210	12.465	12.416	15,365	12,304	9
20	•					_	. •				
1	13.097	13.064	13.029	12.989	12.947	12.001	12.851	12.796	12.737	12.673	20
2	13.858	13.818	13.411	13.368	13.321	13.510	13.212	13.152	13.090	13'344	2
3	14'210	14.166	14.118	14.066	14.000	13'948	13.882	13.810	13.732	13.648	3
4	14.244	14.496	14.443	14.386	14.322	14.228	14.186	14.108	14.053	13.031	4
25	14.860	14.807	14.751	14.689	14.623	14.220	14'471	14.386	14'295	14.199	25
8	15.120		15.040	14'973	14'901	14.823	14.738	14.646	14.293	14'441	8
7	15.441		15.313	15'241	12,163	15.049	14.987	14.889	14.782	14.668	7
8	15.44	15.642	15.220	15'492	15.408	15.317	15.510	15.114	12,000	14.877	8
9	15.959	امذما	15.811	15.42	15.637	15.240	15.435	15.322	15'200	15.069	9
30	16.192	16.118	16.036	15.946	15.820	15.746	15.634	15.214	15.384	15.245	30
1	16.416	16.334	16.546	16.120		15'937	15.818	12.690	15.22	15.406	1
2	16.623	16.236	16.442	16.340		16.113	15.987	15.851	15.406	15.221	2
3	16.819	16.724	16.623	16.212	16.399	16.275	16.141	15.998	15.845	15.682	3
4	16.996	16.898	16.792	16.677	16.224	16.423	16.585	16.131	15.970	15.799	4
35	17'163	17.059	16.947	16.826	16.696	16.228	16.409	16.521	16.085	15.903	35
6	17.318	17.208	17.089	16.962	16.825	16.980	16.24	16.328	16.185	15.995	в
7	17.461	17.344	17.219	17.085	16.942	16.490	16.627	16.454	16.540	16.076	7
8	17.592	17.469	17.338	17.198	17.048	16.888	16.419	16.238	16.348	16.146	8
9	17.711	17.283	17.446	17.299	17.142				16.412	16.504	9
40	17.821	• ,		17.389	17.526		16.841		16.473	16.228	40
1	17.919	17.779	17.629	17.470			19.035	16.732	16.255	16.301	1
2	18.000	•	17.707		17:366		16.982	16.480	16.263	16.338	2
3	18.088		17.775		17.422	17.232	17.031	16.819		16.364	3
4	18.120	18.003	17.835	17.658	17.471	17.275	17.069	16.82		16.391	4
45	18.555	18.029	17.887	17.704				16.880	16.649	16.410	45
6	18.277	18.100	17.931		17.548	17.342	17.126			16.425	6
7	18.325		17.970		17.577	17:367	17.148	16.919	16.682	16.437	7
8	18.366	18.189	18.003	17.806	17.601	17:387	17'164	16.933	16.693	16.445	8
	18.401	18.519	18.039	17.828	17.620	17.403	17.177	16.943	16.401	16.425	
	30	31	32	33	34	35	36	37	38	39	

 $O^{\mathbf{M}(5)}$

VALUES OF TEMPORARY ANNUITIES OF 1

 $3^{1\over 2}_{\text{CENT.}}$

tion.	16.204	15.937									Dura-
0		10 507	15.664	15.385	15·100	14.810	14.514	14.213	13-908	13.597	tion.
	.000	.000	.000	.000	.000	.000	.000	'000	.000	.000	0
1 2	957 1.872	.956 1.871	1.869	.956 1.868	°955 1°867	°955 1°865	'954 1'864	.953 1.862	°953	°952	1 2
8	2.746	2.744	2.242	2.739	2.737	2.734	2.730	2.727	2.723	2.718	3
4	3.282	3.579	3.575	3.21	3.266	3.261	3.226	3.249	3.243	3.236	4
5	4.381	4'375	4.369	4.363	4.356	4'349	4.340	4.331	4.321	4.311	5
6 7	5 ^{.143}	5°135 5°860	5°127 5°849	5.837	5°108 5'824	5.810 2.008	5.086	5°74 5'778	5°060 5°759	5°045 5'740	6 7
8	6.263	6.220	6.236	6.231	6.204	6.486	5°795 6°466	6.445	6.421	6.397	8
9	7.223	7.207	7.190	7.176	7.120	7.127	7.103	7.076	7.046	7.016	9
10	7.852	7.832	7.811	7.788	7.762	7.735	7.705	7.672	7.636	7.598	10
1	8.450 9.019	8.427 8.991	8.401 8.960	8·373 8·927	8·342 8·891	8.309 8.852	8.810	8·234 8·764	8.191 8.413	8·145 8·659	1 2
3	9.229	9.226	9.490	9.452	9.410	9.364	9.315	9.261	9.203	9'141	3
4	10.040	10.033	9'992	9'947	9.899	9.846	9.790	9.728	9.661	9.289	4
15	10.222	10.215	10.462	10.412		10.300		10.162	10.088	10.002	15
6	11.014	10.962	10.015	10.855	10.792	10.725	10.62	10.24	10.487	10.392	6
8	11.447	11'392	11.333	11.656		11'123	11'041	10.302		10.754	7 8
9	12.541	12.123	12.099	12.019		11.840	11.739	11.631		11.390	9
20	12.603	12.227	12.446	12.358		12.161	12.020	11.033	11.804	11.668	20
1	12.942	12.859	12.770		<u> </u>	12'458		12.508	•	11.921	1
3	13.260	13'169	13.072 13.352	12.967	12.853	12.732	12.842	- 1	15,2310	12.328	2 8
4	13.832	13.726	13.611	13.488	13.322	13.514	13.065	-	12.726	12.243	4
25	14.089	13.974	13.850	13.718		13.423	13.561	13.088	12.003	12.708	25
6	14.326	14'202	14.070	13.928		13.613		13.256	-	12.854	6
8	14'545	14.412	14°271	14'119		13.785		13.406	13.331	12.093	7 8
9	14.929	14.779	14.619	14.449		14.04		13.654	13'427	13.188	9
30	15.097	14.938	14.769	14.289	14'397	14.192	13.981	13.755	13.218	13.520	30
1	15.248	15.081	14.902				14.077		13.295	13.339	1
3	15.382	15.353	15.022	14.823		14.393	14.160	13.916	13.421	13'396	2 8
4	15.616	15.423	15.510	15.004		14.239	14.500	14.030	13.760	13.481	4
35	15.413	15.211	15'299	15.076	14.841	14.296	14.340	14.073	13.796	13.211	35
6	15.797	15.288	15.368	15.137		14.643	14.380	14.108		13.232	6
8	15'870	15.054	15.427	15.189		14.682	14.413	14'135	13.847	13.229	7 8
Ð	15.987	15.758		15.568		14.739		14'173	13.878	13.276	9
40		15'797	15.252	15'297		14.758		14'186			40
1	16.071	15.830	15.24			14.773	14.488	14.192	13.894	13.289	1
3	16.105	15.856 15.877	15.001	15°337		14.784	14'496	14.500		13.592	2 3
4	16.144		15.631	12.361			14.507	14.500		13.296	4
45	16.165	15.906	15.641	15.369	15.089	14.803	14.210	14.511	13.906	13.296	45
6	16.174		15.648	15.374	15.093	14.806	14.212	14.515		13.597	6
7 8	16.190	15.922	15.653 15.657	15.378		14.807		14.513		13.257	7 8
ě	16.192	12.930		15.385		14.809		14.513		13.297	9
_	40	41	42	43	44	45	46	47	48	49	

 $O^{\mathbf{M}(5)}$

VALUES OF TEMPORARY ANNUITIES OF 1

 3^{1}_{2} per cent.

Dura-	50	51	52	53	54	55	56	57	58	59	Dura-
tion.	13.282	12.963	12.639	12:312	11.982	11.649	11:313	10.975	10.635	10-294	tion.
0	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	0
1	·951	.950	'949	.948	'947	•946	945	'943	'942	'940	1
2	1.855	1.853	1.850	1.847	1.843	1.840	1.836	1.831	1.827	1.821	2
3 4	2.414	2.709	2.403	2.697	2.690 3.489	2.683	2.675	2.666	2.657	2.647	3 4
	3.228	3.219 4.286	3.210	3.200	4'241	3°477 4°223	3.463 4.503	3°449 4°182	3°434 4°159	3'417 4'134	5
5 6	4°299 5°028	5.011	4'272 4'991	4°257 4°970	4'947	4'923	4.895	4.866	4.834	4.800	6
7	5.418	5.694	5.668	5.641	5.610	5.578	5.245	5.203	5.461	5.416	7
8	6.368	6.338	6.302	6.269	6.531	6.189	6.143	6.094	6.041	5.984	8
9	6.980	6.943	6.902	6.858	6.810	6.758	6.405	6.642	6.576	6.206	9
10	7.555	7.210	7.460	7.407	7:349	7:287	7.219	7.146	7.068	6.984	10
1	8.092	8.041	7.982	7.919	7.850	7.776	7.696	7.610	7.218	7.418	1
2	8.600	8.537	8.468	8.393	8.313	8.227	8.134	8.034	7.927	7.812	2
8	9.071	8.998	8.918	8.833	8.740	8.641	8.534	8.420	8.298	8.168	8
4	9.210	9.427	9.336	9.538	9,133	9.021	8.899	8.770	8.632	8.486	4
15	9.918	9.823	9.720	9.610	9'492	9.366	9,530	9.086	8.932	8.769	15
6	10.502	10.189	10.074	9.951	10,112	9.678 9.960	9.528	9.368	9.198	0.018	6 7
8	10.643	10.222	10.201	10.261	10.385	10.513	9'795	9.842	9°434 9°640	9°238 9°428	8
9	11.522	11,115	10.028	10.795	10.651	10.438	10,545	10.036	9.820	9.593	9
20	11.231	11.362	11,100	11.055	10.834	10.636	10.426	10.500	9'974	9.732	20
ĭ	11.762	11.204	11'414	11'224	11.055	10.810	10.286	10.321	10.109	9.850	1
2	11.080	11.408	11.606	11'402	11'187	10.061	10.723	10.475	10.514	9.948	2
3	12.174	11.981	11.775	11.259	11.330	11.003	10.841	10.280	10.300	10.029	3
4	12.347	12'142	11.924	11.694	11.454	11.503	10.940	10.662	10.382	10.094	4
25	12.201	12.583	12.053	11.811	11.229	11.596	11.055	10.439	10.446	10.146	25
6	12.635	12.402	12'164	11.011	11.647	11.374	11.089	10.434	10.492	10.186	6
.7	12.751	15.211	12.528	11.995	11.721	11'438	11'144	10.843	10.233	10.518	7
8	12.852	12.601	12.338	12.062	11.782	11.490	11.188	10.879	10.263	10'241	8
9	12.937	12.677	12'404	12'123	11.831	11.231	11.555	10.907	10.282	10.528	30
30	13.010	12.740	12.459	12.160	11.870	11.263	11'248	10.927	10.613	10.271	1
2	13.010	12.792	12.238	12.32	11.000	11.606	11.585	10'954	10.621	10.285	2
3	13,129	12.867	12.266	12.52	11.041	11.650	11,505	10,961	10.626	10.580	3
4	13,101	12.893	12.287	12'274	11.954	11.630	11,300	10.966	10.630	10,501	4
35	13.512	12'913	12.603	12.586	11'964	11.637	11.304	10.070	10.632	10.503	35
В	13.532	12.028	12.614	12.592	11.970	11.641	11.308	10.972	10.633	10.503	6
7	13.549	12.939	12.623	12.301	11'974	11.644	11.310	10.973	10.634	10.294	7
8	13.259	12'947	13.629	12.302	11.977	11.646	11.311	10.974	10.635	10.594	8
9	13.564	12.953	12.632	12.308	11.979	11.647	11.312	10.974	10.632	10.594	9
40	13.272	12.956	12.635	12.310	11,080	11.648	11,315	10'974	10.635	10.594	40
	13.276						11,315	10.972	10.635	10'294	1
3	13.528		12.638		11,081		11,315		10.632	10'294	2 3
4	13.580		12.639				11.312			59 59	١
45	13.581		12.639				11.313	10.972	58		
8	13.581			15.315			11.313	57		50 ,	
7	13.581			13,313			3-3		51	13.282	
8	13.581	12.962		12,315				52	12.963		
9	13.581	12.962	12.639	12,315		l		12.639		13.585	52
								12.639	12.063	13.581	50
											
<u> </u>	50	51	52	53	54	55	56	52	51	50	

 $O^{M(5)}$

VALUES OF TEMPORARY ANNUITIES OF 1

Dura-	60	61	62	63	64	65	66	67	68	69	Dura
tion.	9.953	9.611	9.270	8.929	8.590	8.253	7.918	7.586	7.258	6.933	tion.
0	.000	.000	•000	.000	*000	,000	.000	.000	.000	.000	0
1	.938	.936	'934	.931	928	925	922	.919	.912	.911	1
2	1.816	1.810	1.803	1.796	1.788	1.779	1.769	1.759	1'748	1.736	2
3 4	2.635	2.623 3.378	2.010	2.292	2.280	3.280 3.280	2.244	2.278	2.203	2.479	3
	3.398		3.357	3.333	3.308		3.890	3.518	3.183	3'145	4
5 6	4.102 4.102	4 [.] 077	4°045 4°678	4.631	3'973 4'580	3.933 4.25	4.466	3.843	3.792	3.738	5
7	5.367	5'314	5.257	5'195	5'129	5.028	4.982	4'403 4'901	4 ³³⁵	4.262	6 7
8	5.922	5.856	5.784	5.404	5.624	5.236	5.442	5'341	5'234	5.150	8
9	6.430	6.349	6.561	6.168	6.068	2.961	5.847	5.727	5.299	5.464	9
10	6.893	6.796	6.693	6.281	6.462	6.337	6.503	6.065	5.913	5.756	10
1	7.312	7.198	7.077	6.948	6.811	6.666	6.215	6.351	6.181	6.003	1
2	7.690	7.559	7.420	7.273	7.117	6.952	6.779	6.292	6.407	6.500	2
3	8.028	7.880	7.723	7.558	7.382	7.198	7.006	6.804	6.294	6.377	3
4	8.329	8'164	7.989	7:805	7.611	7.408	7'197	6.977	6.749	6.214	4
15	8.295	8.413	8.220	8.018	7.806	7.585	7:356	7.119	6.874	6.622	15
6	8.829	8.629	8.419	8.199	7.970	7.733	7:487	7.233	6.973	6.707	6
7	9.031	8.815	8.288	8.352	8.102		7.593	7'325	7.051	6.773	7
8 9	9.306	8.974	8.431 8.850	8 [.] 480 8 [.] 584	8.310 8.550	7.952 8.029	7.677	7:396	7'111	6.822	8 9
	9.355	9.107	8.948	8.669	8.383	_	7.743	7.451	7.126	6.858	1
20 1	9.480	9.310 9.318	9.027	8.736	8.439	8.090 8.132	7.793 7.831	7'492	7.188	6.884	20 1
2	9.670	9'384	9.000	8.789	8.483	8.172	7.859	7 [.] 5 ² 3	7.229	6.902	2
3	9.739	9'443	9.139	8.829	8.219	8.198	7.879	7.559	7.240	6.922	3
4	9.795	9.489	9.177	8.860	8.240	8.217	7.893	7.569	7.247	6.927	4
25	9.838	9'524	9'205	8.882	8.557	8.530	7.903	7.576	7.252	6.930	25
В	9.871	9.551	9.226	8.898	8.569	8.238	7.909	7.580	7.254	6.932	6
7	9.896	9.270	9.241	8.909	8.277	8.244	7.913	7.583	7.256	6.933	7
8	9'914	9'584	9.521	8.917	8.282	8.248	7.912	7.584	7*257	6.933	8
9	9.927	9.594	9.258	8.922	8.585	8.520	7.916	7.585	7.257	6.933	9
80	9.936	9.600	9.263	8.925	8.282	8.251	7.917	7.586	7.258	6.933	30
	9.943	9.605	9.266	8.927	8.289	8.252	7.918	7.586	7.258	6.933	1
3	9.947	9.607	9.267	8.928	8.589	8.252	7.918	7.586	7:258	6.933	2
4	9'949	6.610 6.600	9.269	8.929	8·590 8·590	8.223 8.523	7.918	7.586 7.586	7.258	6.933	0
35		9.611	9.269	8.929	8.290	8.523	7.918		7°258 68	69	
6	9.952 9.952	9.611	9.270	8.929	8.290	8.523	7.918	7.586 67		40	
7	9.952	9.611	9.270	8.929	8.290	8.523	66	<u> </u>	4I		
8	9.953	9.611	9.270	8.929	8.590	65		42	15.937	16.204	
9	9.953	9.611	9.270	8.929	64		43	15.664		16.504	62
40	9.953	9.611	9.270	63	4-	44	15.385		15.937	16.504	1
1	9.953	9.611	62	46	45	15.100		15.664	15.937	16'204	60
2	9.953	61	47	46	14.810			15.664			59
	60	48	47	14.514	7.4.8.7.0	15,100		15.663		16.304	8 7
	49		14.213	14.214	14.810		15'385	15.663			6
		13.908	14'213			12,100	12.382	15.663	12.936	16.503	5
	13.597	13.908	14'213	14.214		12,100	15.382			16.503	54
53	13.297	13.908			14.810		15.382		15.036	16.503	3
2	13.597	13.907	14.513			12,100	15.384			16.505	2
1	13.597	13.907	14.513	14.214	14.810	12.100	15.384	15.662	15.934	16.500	1
50	13.297	13.907	14.513	14.214	14.810	15.099	15.383	15.661	15'933	16.198	50
	49	48	47	46	45	44	43	42	41	40	

 $O^{\mathbf{M}(5)}$

VALUES OF TEMPORARY ANNUITIES OF 1

Dura-	50	51	52	53	54	55	56	57	58	59	Dura-
tion.	13.282	12.963	12.639	12:312	11.982	11.649	11.313	10.975	10.635	10-294	tion.
0	.000	.000	.000	.000	.000	*000	.000	.000	.000	.000	0
1	951	.950	'949	.948	947	946	945	.943	'942	'940	1
2	1.822	1.853	1.820	1.847	1'843	1.840		1.831	1.827	1.821	2
3	2.714	2.709	2.703	2.697	2.690	2.683	2.675	2.666	2.657	2.647	3
4	3.228	3'519	3.210	3.200	3.489	3'477 4'223	3.463	3°449 4°182	3.434	3'417	4 5
5 6	4°299 5°028	4.586	4'272 4'991	4°257 4°970	4'241	4'923	4.892	4.866	4.120 4.834	4°134 4°800	6
7	5.718	5.694	5.668	5.641	5.610	5.248	5.245	5.203	5.461	5.416	7
8	6.368	6.338	6.302	6.569	6.531	6.189	6.143	6.094	6.041	5.984	8
9	6.980	6.943	6.902	6.858	6.810	6.758	6.405	6.642	6.576	6.206	9
10	7.555	7.210	7.460	7:407	7:349	7.287	7.219	7.146	7.068	6.984	10
1	8.092	8.041	7.982	7.919	7.850	7.776	7.696	7.610	7.218	7.418	1
2	8.600	8.537	8.468	8.393	8.313	8.227	8.134	8.034	7.927	7.812	2
3	9.071	8.998	8.918	8.833	8.740	8.641	8.534	8.420	8.508	8.168	8
4	9.210	9.427	9.336	9.538	9.133	9.021	8.899	8.770	8.632	8.486	4
15	9.018	9.823	9.720	9.610	9'492	9.366	9.230	9.086	8.932	8.769	15
6 7	10.502	10.180	10'074	9.951	9.819	9 [.] 678 9 [.] 960	9.528	9.368 9.368	9.198	0.010	6 7
8	10.643	10.222	10.201	10'542	10.385	10,513	9'795 10'032	9.842	9°434 9°640	9°238 9°428	8
9	11,522	10.833	10.028	10.795	10.631	10,438	10'242	10.036	9.820	9.593	9
20	11,21	11.365	11,100	11.055	10'834	10.636	10.426	10.500	9.974	9.732	20
ī	11.262	11.203	11,414	11.554	11.055	10.810	10.286	10,321	10.109	9.850	1
2	11.080	11.208	11.606	11'402	11'187	10.061	10.723	10.475	10.514	9.948	2
3	12.174	11.981	11.775	11.229	11.330	11.092	10.841	10.280	10.300	10.030	3
4	12.347	12.142	11.924	11.694	11.454	11.503	10.940	10.664	10.382	10.004	4
25	12.201	12.583	12'053	11.811	11.229	11'296	11.055	10.739	10.446	10.146	25
В	12.635	12.405	12.164	11.011	11.647	11.374	11.089	10.434	10.492	10.186	в
.7	12.751	12.211	12.528	11.995	11.421	11.438		10.843	10.233	10.518	7
8	12.852	12.601	12.338	12.062	11'782	11.490	11.188	10.879	10.263	10'241	8 9
9	12.937	12.677	12'404	12.123	11.831	11.231	11'222	10.907		10.228	
30	13.010	12.740	12.459	12.169	11.870	11.263	11.248	10.927	10.601	10'271	30 1
1 2	13.070	12.434	12.238	12'235	11.000	11.288	11.585	10'943	10.651	10.279	2
3	13,119	12.867	12.266	12.522	11.941	11.620	11,505	10.001	10.626	10.580	3
4	13,131	12.893	12.287	12.54	11'954	11.630	11,300	10.066	10.630	10.501	4
35	13.512	12.013	12.603	12.586	11'964	11.637	11.304	10.970	10.633	10.503	35
6	13'235	12.028	12.614	12.295	11.970	11.641	11.308	10.972	10.633	10'293	6
7	13'249	12.939	12.623	12,301	11'974	11'644	11.310	10.973	10.634	10'294	7
8	13.259	12.947	12.629	12.305	11.977	11.646	11.311	10.974	10 635	10.594	8
9	13.564	12.953	12.632	12.308	11.979	11.647	11.312	10.974	10.632	10.594	9
40	13.575	12.956	12.635	12.310	11,080	11.648	11,315	10.974	10.635	10.594	40
		12.959		12.311		11.048	11.312	10.972	10.632	10'294	Ţ
2 3		12.061				11.649			10.632	10'294	2 3
4		15.961		12,315			11,312		10.632	59 59	"
45	-	12.062		12,315			11.313	10.972	58		
8		12.062		12,315	11.081	11.649		57		50	
7		12.065		12,315		11'649	3-3		51	13.282	
8		12.962		12.312		l '´.		52	12.963		
9	13.581	12.962	12.639	12.312				12.639		13.585	52
								12.639	12.963	13.581	1 50
											
	50	51	52	53	54	55	56	52	51	50	

WHOLE-LIFE PARTICIPATING ASSURANCES

MALE LIVES

 $O^{\mathbf{M}(5)}$

VALUES OF TEMPORARY ANNUITIES OF 1

 $3\frac{1}{2}$ PER

Dura-	60	61	62	63	64	65	66	67	68	69	Dura-
tion.	9.953	9.611	9.270	8.929	8.590	8.253	7:918	7.586	7:258	6.933	tion.
0	.000	.000	.0 00	.000	.000	.000	.000	.000	.000	.000	0
1	.938	.936	'934	.931	.928	925	922	.919	'915	.911	1
2	1.816	1.810	1.803	1.796	1.488	1.479	1.769	1.759	1.748	1.736	2
3	2.635	2.623	2.610	2.292	2.280	2.263	2.244	2.234	2.203	2.479	8
4	3.398	3.378	3'357	3'333	3.308	3.580	3.520	3.518	3.183	3.142	4
5	4.104	4'077	4.042	4.011	3.973	3'933	3.890	3.843	3'792	3.738	5
6	4.762	4.722	4.678	4.631	4.280	4.25	4.466	4'403	4'335	4.363	6
7	5.364	5.314	5'257	2,162	5'129	5.028	4.982	4,001	4.814	4.41	7
8	5.022	5.856	5.784	5.404	5.624	5.236	5'442	5.341	5'234	5.150	8
9	6.430	6.349	6.501	6.168	6.068	5.961	5.847	5.727	5.299	5.464	9
10	6.893	6.796	6.692	6.281	6.462	6.337	6.503	6.062	5.013	5.756	10
1	7.312	7.198	7.077	6.948	6.811	6.666	6.220	6:351	6·181	6.003	1
2 3	7.690 8.028	7.559 7.880	7.420	7°273 7°558	7.117	7.198	6·779 7·006	6·597 6·804	6.294	6.500	3
4	8.329	8.164	7.989	7:805	7.611	7.408	7'197	6.977	6.749	6·377 6·514	4
		8.413	8.550	8.018	7.806	7.585			6.874		
15 6	8·595 8·829	8.629	8.419	8.199	7.970	7 505	7°356 7°487	7.119	6.973	6·622 6·707	15 6
7	9.031	8.812	8.588	8.352	8.102	7.854	7.593	7.325	7.021	6.773	7
8	9.306	8.974	8.731	8.480	8.550	7.952	7.677	7.396	7.111	6.822	8
9	9.355	9.107	8.850	8.284	8.310	8.029	7.743	7.451	7.156	6.858	9
20	9.480	9.518	8.948	8.669	8.383	8.000	7.793	7.492	7.188	6.884	20
1	9.584	9.310	9.027	8.736	8.439	8.132	7.831	7.523	7.212	6.903	ĩ
2	9.670	9.384	0.000	8.789	8.483	8.172	7.859	7.544	7.229	6.914	2
3	9.739	9.443	9.139	8.829	8.216	8.198	7.879	7.559	7:240	6.922	3
4	9.795	9.489	9.177	8.860	8.240	8.217	7.893	7.569	7.247	6.927	4
25	9.838	9.224	9.205	8.882	8.557	8.230	7.903	7.576	7.252	6.930	25
6	9.871	9.221	9.556	8.898	8.569	8.538	7.909	7.580	7.254	6.932	6
7	9.896	9.220	9.241	8.909	8.577	8.244	7.913	7.583	7.256	6.933	7
8	9.914	9.584	9.251	8.917	8.582	8.248	7.915	7.584	7.257	6.933	8
9	9.927	9.594	9.258	8.922	8.282	8.220	7.916	7.585	7.257	6.933	9
30	9.936	9.600	9.263	8.925	8.587	8.251	7.917	7.586	7.258	6.933	30
1	9.943	9.605	9.266	8.927	8.589	8.222	7'918	7.586	7.258	6.933	1
2	9'947	9.607	9.267	8.928	8.289	8.252	7.918	7.586	7.258	6.933	2
8	9.949	9.609	9.268	8.929	8.290	8.222	7.918	7.586	7.258	6.933	3
4	9.951	9.610	9.269	8.929	8.290	8.523	7.918	7.586	7.258	69	
35	9.952	9.611	9.269	8.929	8.290	8.253	7.918	7.586	68		
6	9.952	9.611	9.270	8.929	8.290	8.253	7.918	67	4-	40	
7	9.952	9.611	9.270	8.929	8.290	8.53	- 66	42	4I	16.204	
8	9.953	9.611	9.270	8.929	8.290	65	42	42	15.937	16.304	ا مم ا
9	9.953	9.611	9.270	8.929	64	44	43	15.664	15.937	16.504	62 1
40	9.953	9.611	9.270	63	45	44	15.385	15.664	15'937	16.504	60
	9.953	9.611	62	46		15.100	15.382	15.664		16.504	59
2	9.953	61	47		14.810	15,100		15.663	15.036	16.504	8
	60	48		14.514	14.810	12,100		15.663			7
	49		14.213	14.214		12,100	15.382			16.504	6
		13.908	14'213	14.214		12,100		15.663	15.936	16.503	5
	13.597	13.908	14.513	14.214	14.810	12,100	15.382				54
53	13.597	13.908	14.513	14.214		12,100				16.503	3
2	13.257	13.907	14.513	14.214		12,100		15.663		16.505	2
1	13.257	13.907	14.513	14.214		12.100	15.384	15.662	15.934	16.500	1
50	13.297	13.907	14.513	14.214	14.810	12.099	15.383	15.661	15.933	16.198	50
	49	48	47	46	45	44	43	42	41	40	

 $O^{\mathbf{M}(5)}$

VALUES OF TEMPORARY ANNUITIES OF 1

 $3\frac{1}{2}$ PER DENT.

Dura-	70	71	72	73	74	75	76	77	78	79	Dura-
tion.	6.614	6.299	5.990	5.687	5·391	5·101	4.819	4.545	4.278	4.020	tion.
0	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	0
1	•906	.901	.896	.890	.884	.877	.869	.861	.852	·843	1
2	1'723	1.408	1.693	1.676	1.628	1.639	1.618	1.202	1.240	1'544	2
8	2.454	2.427	2'397	2.362	2,331	2.502	2.525	2'213	2'168	2'120	3
4	3.102	3.061	3.012	2.965	2,011	2.854	2.493	2.728	2.659	2.286	4
5	3.680	3.618	3.221	3.480	3'405	3.322	3.540	3.120	3.026	2.958	5
6 7	4°184 4°622	4.218	4'013	3.920	3.821 4.168	3.417	3.607	3.493	3.373 3.620	3.248	6 7
8	5.000	4.873	4 [.] 4 ⁰ 7 4 [.] 739	4°290	4'452	4°039 4°300	3'905	3.765 3.978	3.810	3.471 3.639	s s
9	5.321	5.175	5.012	4.852	4.683	4.204	4.354	4'142	3.923	3.465	9
10	5.202	5.421	5.545	5.022	4.866	4.670	4.469	4.265	4.028	3.820	10
ī	5.818	5.625	5'425	5.550	5.000	4.794	4.24	4.322	4.133	3.011	ĩ
2	6.003	5.790	5.572	5.348	5.150	4.888	4.654	4.420	4.182	3.953	2
3	6.123	5.922	5.686	5.446	5.505	4'957	4.711	4.465	4.551	3.980	8
4	6.272	6.022	5'774	5.20	5.563	5.006	4.750	4:495	4'244	3'997	4
15	6.362	6.104	5.840	5'574	5.307	5.040	4.776	4.212	4.258	4.004	15
6	6.437	6.164	5.888	5.612	5'337	5.064	4'793	4.28	4.562	4.013	6
7	6.491	6.207	5.923	5.639	5.357	5.079	4.804	4.535	4.525	4.014	7
8 9	6.231	6.539	5'947	5.658	5.371	5.088	4.811	4.240	4.275	4.018	8
	6.559	6.260	5.963	5.670	5.377	5.094	4.812	4.245	4.277	4.019	9
20 1	6.229	6.285	5.974	5.682 5.682	5.384	5.008	4.817	4.243	4.278	4.020	20
2	6.205	6.501	5.981 5.981	5.684	5.388 5.388	2.100	4.818 4.819	4.244	4°278 4°278	4'020 4'020	1 2
8	6.606	6.592	5.987	5.686	2.390	2.101	4.819	4°544 4°544	4.278	4.020	3
4	6.610	6.592	5.989	5.687	2.391	2,101	4.819	4 544	4.518	79	١١
25	6.611	6.298	5.989	5.687	2.391	2,101	4.819	4'545	78		
в	6.613	6.299	5.990	5.687	2.391	2.101	4.819	77		30	
7	6.613	6.299	5.990	5.687	5.391	2,101	76		31	18.542	l I
8	6.613	6.299	2.990	5.687	5.391	75		32	18.336		
9	6.614	6.599	2.990	5.687	74	24	_33	18·123	18.336	18 [.] 542	72
30	6.614	6.599	2.990	78	35	34	17.904	18.123	18.336	18.542	70
1 2	6.614	6.599	72	36		17.680	17.904	18.153	18.336	18.242	69
^		71	37		17:449	17.680	17.904	18.153	18.336	18.245	8
l	70	38		17.212	17.449	17.680	17.904	18.153	18.336	18.542	7
	39		16.969	17.212	17.449	17.679	17.904	18.123	18.336	18.542	6
		16'720	16.969	17.212	17.449	17.679	17.904	18.123	18.336	18.542	5
1	16.465	16.720	16.969	17.212	17.449	17.679	17.904	18.123	18.335	18.242	64
63	16.465	16.720			17.449	17.679	17:904	18.153		18.241	3
2	16.465	16.720	16.969	17.515	1	17.679	17.904	18.123	18.335	18.241	2
1	16.465	16.420	16.969		1	17.679	17:904	18.122	18'334	18.540	1
60	16.465	16.720	16.969	17.212	17.449	17.679	17.903	18'122	18.333	18.238	60
59	16.46	10'720	16.969	17.212	17.449	17.079	17.902	18.110	18.332		59
8 7	16.462	16.450	16.060	17.211	17.440				18.329		8 7
é	16.462	16.720				17.675	17.897			18.23	6
5							17.894				
54		16.718		17.207		17.669				18.202	1
3	16.463	16.717	16'964	17.205	17.438	17.664		18.094		18.492	3
2	16.462	16.715	16.961		17.433	17.657	17.873	18.085	18.583	18.476	
1	16.460	16.415	16.924	17.195		17.647	17.862	18.068			1
50	16.456		16.951	17.187	17.416	17.635	17.847	18.021	18.245	18.431	50
	39	38	37	36	35	34	33	32	31	30	1
			,	•	00	J 7	00		J -	J -	1

 $O^{M(5)}$

VALUES OF TEMPORARY ANNUITIES OF 1

 $3^{\frac{1}{2}}_{\text{cent.}}^{\text{per}}$

Dura-	80	81	82	83	84	85	86	87	88	89	Dura-
tion.	3.770	3.230	3.298	3.075	2.861	2.657	2.462	2.276	2·100	1.932	tion.
0	,000	.000	.000	.000	•000	'00 0	.000	*000	.000	.000	0
1	.832	.821	.809	•796	.782	.767	.42 ²	734	.716	.697	1
2	1.216	1.486	1.454	1'420	1.383	1.344	1.303	1.500	1.512	1.198	2
8	2.069	2.012	1.958	1.898	1.834	1.768	1.699	1.626	1.22	1'476	3
4	2.210	2.429	2.345	2.527	2.166	2.071	1'974	1.874	1.773	1.670	4
5	2.855	2.747	2.636	2.21	2.403	2.583	2.160	2.036	1'912	1.788	5
6 7	3,318	3.191	2.850	2.210	2.2680	2'425	2°282 2°358	2.138	1.996	1.856	6 7
8	3.464	3.587	3.100	2.042	2.753	2.219 2.248	2.405	2.236	2.045	1'914	8
9	3.568	3.375	3.181	2.080	2.799	2.613	2'432	2.526	2.082	1'924	9
10	3.641	3.434	3.558	3.056	2.827	2.634	2.447	2.267	2.004	1,050	10
1 1	3.691	3.472	3.528	3.048	2.843	2.645	2.455	2.272	2.094	1,031	1
2	3.43	3'497	3.276	3.001	2.852	2.652	2.459	2.274	5.099	1,035	2
3	3.743	3.215	3.586	3.068	2.857	2.654	2.461	2.272	5,000	1,035	3
4	3.755	3.250	3.505	3.072	2.860	2.656	2.462	2.276	2.100	89	
15	3.763	3.22	3.592	3.074	2.861	2.657	2.462	2.276	88		
6	3.767	3.527	3.597	3.075	2.861	2.657	2.462	87		20	
7	3.769	3.259	3.297	3.075	2.861	2.657	86		21	20.299	
8	3.770	3.259	3.298	3.075	2.861	85		22	20.147		
9	3.440	3.230	3.598	3.072	84		23	19.990		20.599	82
20	3.770	3.230	3.298	83		24	19.829		20.147	20.599	1
1 1	3.770	3.230	82		25	19.662		19.990	20 147	20.299	80
2	3.770	81		26	19.489		19.829	10.000	20'147	20,500	79
1.	80	-0	27	19.311	19.489	19.662	19.829		20'147	20.500	8 7
1 1	~	28	19.127	19.311	19,489	19.662	19.828	10,000	20'147	50,500 50,500	.6
1 1	29	18.938	19.127	10,311	19.489	19.665	19.828	19,990	20'147	20.599	5
1	18.743	18.938	19.127	19,311	19.489	19.665	19.828		20'147	20.538	74
73	18.743	18.938	19127	10.311	19.489	19.662			20.146	20.538	3
2	18.743		19.127			19.661	19.828			20.508	2
lil	18.743	18.938	19'127	1	19.489	19.661	19.828	19.990	20'146	20.297	1
70	18.743	18.938	19.127		19.489	19.661	19.828	19.989	20.145	20.296	70
69	18.743	18.938	19.127	19.311	19.488	19.661	19.827	19.989	20'144	20.292	69
8	18.743	18.938		1	19.488	19.661		19.988	20.143	20.293	. 8
7	18.743	18.938	19.127	19.310		19.660			20'140	20.500	7
6	18.743	18.938	19.126	19.310	19.487	19.659		19.984	20.132	20.586	6
5	18.743	18.937	19.156		19.486	19.657	19.822	19.981	20.133	20.581	5
64	18.742	18.937	19.125		19.484	19.655	19.818		20.158	20.524	64
3	18.742	18.936	19.124	19.306		19.651			20,151	20.262	3
2	18.741	18.934	19.122		19.478				20'112	20.522	2
60	18.739	18.032	10.110		19.473	19.640	19.900	19'954	20.101	20,331	1 60
1 00	18.737	10 930		19'294	19 407	19 033	19 791	19.943		20,552	
.59	18.734	18.920	10,103		19 450	19.610	19.778	19,010		20.185 50.502	59 8
8 7		18.013		19.279		19.2010	19.763	19.889	20.032	20.122	7
6	18.717		19.083			19.575			19.997	20.153	6
5	18.707		19.068			19.22		19.834	19'964	20.082	5
54	18.695		_	10.516	19.374	19.224	19.666		19.926	20.045	54
3	18.679	18.858	19.020			19'492			19.883	19.998	3
2	18.660	18.832	19.003			19.455	19.289	19.715		19.946	2
ī	18.636	18.808	18.972		19.273	19.412	19.242	' '		19.887	1
50	18.608	18.776	18.935	19.086	19.55	19.363	19.489	19.607	19.717	19.821	5 0
	29	28	27	26	25	24	23	22	21	20	

 $O^{\mathbf{M}(5)}$

VALUES OF TEMPORARY ANNUITIES OF 1

 $3^{1\over 2}_{\text{CENT.}}^{\text{PER}}$

Dura-	90	91	92	93	94	95	96	97	98	99	Dura-
tion.	1.773	1.624	1.481	1.351	1.224	1.112	1.000	·910	·820	· 6 98	tion.
0	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	0
1	.676	.655	·630	.608	.280	.556	.524	•500	'483	'451	1
2	1.118	1.064	1,013	.960	.902	.847	.785	'741	.401	638	2
3	1,396	1.314	1.532	1.126	1.041	.992	912	.850	.791	•698	3
4	1.266	1.463	1.328	1.258	1.122	1.063	.969	·895	.820	99	
5	1.664	1.243	1'423	1,300	1,196	1.094	.992	.910	98		
6	1.418	1.286	1.455	1'334	1.514	1.102	1,000	97		10	
7	1.47	1.607	1.471	1'345	1.555	1,115	96	12	II	21.563	
8	1.761	1.617	1.478	1,320	1.554	95			21.455	21.263	92
9	1.768	1.022	1.481	1,321	94	7.4	13	21.344	21'455	21.263	1
10	1.441	1.624	1,481	98	TE	14	21.229	21.344	21.455	21.263	90
1 2	1.772	1.624	92	16	<u> 15</u>	21.109	21.550	21.344	21.455	21.263	89
_	1.773	91	17		20.985	21,100	51,550	21.344	21.455	21.263	8
l	90	18		20.857	20.985	21,100	21,558	21.344	21.455	21.263	7
	19		20.724	20.857	20.985	21.100	21.558	21.344	21.455	21.263	6
ı		20.587	20.724	20.857	20.985	21.100	21.558	21.344	21.455	21.263	5
ı	20.445	20.287	20.724	20.857	20.985		21.558	21.344	21.455	21.262	84
83	20.442	20.287	20.724	20.857	20.985	21'109	21.558	21.344	21.455	21.262	3
2	20.445	20.287	20.724		20.985	21.100	21.558	21.344	21.455	21.262	2
1	20.442	20.284	20.724	20.857	20.985	21.100	21.558	21.343	21.454	21.262	1
80	20,442	20.284	20.724	20.857	20.985	21.108	21.558	21.343	21.454	21.261	80
79	20'445	20.282	20.724	20.857	20.984	21.108	21'227	21.343	21.453	21.260	79
8	20'445	20.284	20.724	20.856	20'984	21.108	21.227	21.342	21.452	21.220	8
7	20.442	20.284	20.724	20.856	20.984		21,550	21.341	21'451	21.224	7
6	20.442	20.284	20.4	20.856	20.083		21.552	21.339	21.449	21.224	6
5	20.442	20.284	20.453	20.855	20.983	21,100	21,554	21.332	21.446	21.221	5
74	20.442	20.286	20.43	20.855	20.085	21'104	21,551	21.332	21.443	21.246	74
3	20'444	20.286	20.455	20.853		21,105	21,510	51.331	21.438	21.240	8
2	20,444	20.282	20.451		20.977	51,099	21,512		21.432	21,233	2
1	20'443	20.283	20.410	20.849	20.974	21.092	21,510	-	21,424	21.234	1 70
70	20'441	20.282	20.219			51.089	21,503	I	21.415	21.214	70
69	20.439	20.249	20.413	20.842	20.964	21.083	21.102		21.404	, -	69
8 7	20.437	20.222	20.708		20.957	21'074	21.185		21.390	21.485	8 7
6	20'433 20'428	20.24	20.402		20.949	21.064		21.360	21'374	21'467	6
5	20,422	20.226	20.685	20.808	20.938	21.036	21.128	21.500	51,333	21'440	5
64	20.413	20.246	20.673	20.794				21.512	21.308	21.304	64
3	20'403	20.24	20.659		20.890	20'996	51,00Q		21.279	21.363	3
2	20,390	20.210	20.643	20.758	20.867	20.971	21.060	21.101	21.542	51.358	2
l ī	20.374	20.201	20.621			20.943	21.038	i .	21,510		ī
60	20.356					20.010	51.003		21.169		60
59	20.333	20.455	20.269	20.677	20'778	20.874			21.154		59
8	20.307	20'425	20.232	20.642		20.832	50.018			21'144	8
7	20.577	20.392	20.200	_	20.697		20.869		21.019		7
6	20.242	20.354	20.459	20.222	20.649	-	20.812	20.890	20.959	21.053	6
5	20,505	20,310	20'412	20.207	20.292		20.755	20.827	20.894	20.955	5
54	20.124	20.565	20.360		20.236		20.690	20.759	20.823	20.882	54
3	20.106	20.302	20.305	20.390		20.548	20.619	20.685	20.746	20.803	3
2	20.020	20'147	20.538	20.355	20,401	20'474	20.242	20.602	20.663		2
1	19.987	20.081	20.168	20.540	20.324	20:394	20.459	20.219	20.272	20.626	1
50	19.917	20.007	20.001	50.199	20'241	20.308	20:370	20.427	20.480	20.229	50
1	19	18	17	16	15	14	13	12	II	10	1
					7.0			!	!	<u>' </u>	'

O^{M(5)}

4 PER CENT.

CONSTANTS.

Constant.	Number.	Logarithm.
i	' 04	<u>2</u> .602 060 0
(i+i)	1'04	0.014 033 3
$(1+i)^{\frac{1}{2}}$	1,010 803 0	0.008 216 2
$(1+i)^{\frac{1}{4}}$	1.000 823 4	0.004 528 3
v	·961 538 5	ī·982 966 7
$v^{1\over 2}$	·980 580 7	ī·991 483 3
$v^{\frac{1}{4}}$	990 242 7	ī·995 741 7
ď	·038 461 5	2.585 026 7
δ	·039 220 7	2·593 515 5

 $O^{M(5)}$

COMMUTATION TABLE

4 PER CENT

\boldsymbol{x}	$\mathbf{D}_{m{x}}$	N_x	\mathbf{S}_{x}	\mathbf{C}_{x}	\mathbf{M}_{x}	R_x	x
10 11 12 13 14	72 504 69 288 66 212 63 272 60 460	1 502 205 1 429 701 1 360 413 1 294 201 1 230 929	27 249 932 25 747 727 24 318 026 22 957 613 21 663 412	427.43 410.99 393.98 378.25 363.14	14 727 31 14 299 88 13 888 89 13 494 91 13 116 66	454 134'00 439 406'69 425 106'81 411 217'92 397 723'01	10 11 12 13 14
15 16 17 18 19	57 771 55 200 52 741 50 390 48 141	1 170 469 1 112 698 1 057 498 1 004 757 954 367	20 432 483 19 262 014 18 149 316 17 091 818 16 087 061	349°18 335°75 323°33 310°89 298°93	12 753 52 12 404 34 12 068 59 11 745 26 11 434 37	384 606·35 371 852·83 359 448·49 347 379·90 335 634·64	15 16 17 18 19
20 21 22 23 24 25	45 990 43 933 41 965 40 083 38 282 36 559	906 226 860 236 816 303 774 338 734 255 695 973	15 132 694 14 226 468 13 366 232 12 549 929 11 775 591	288·32 278·49 268·19 259·04 250·20 242·38	11 135'44 10 847'12 10 568'63 10 300'44 10 041'40	324 200.27 313 064.83 302 217.71 291 649.08 281 348.64 271 307.24	20 21 22 23 24 25
26 27 28 29 30	30 359 34 911 33 334 31 824 30 380 28 997	659 414 624 503 591 169 559 345 528 965	10 345 363 9 685 949 9 061 446 8 470 277	242 36 234 45 227 10 220 61 213 97 208 41	9 791 20 9 548 82 9 314 37 9 087 27 8 866 66 8 652 69	261 516·04 251 967·22 242 652·85 233 565·58	26 27 28 29
31 32 33 34 35	27 674 26 407 25 194 24 032 22 919	499 968 472 294 445 887 420 693	7 381 967 6 881 999 6 409 705 5 963 818	202.68 197.35 192.92 188.54	8 444'28 8 241'60 8 044'25 7 851'33	216 046·23 207 601·95 199 360·35 191 316·10 183 464·77	31 32 33 34 35
36 37 38 39 40	21 853 20 832 19 853 18 915 18 016	373 742 351 889 331 057 311 204 292 289	5 146 464 4 772 722 4 420 833 4 089 776 3 778 572	180.64 177.53 174.60 171.84	7 478:33 7 297:69 7 120:16 6 945:56 6 773:72	175 801 98 168 323 65 161 025 96 153 905 80	36 37 38 39 40
41 42 43 44 45	17 153 16 326 15 532 14 771	274 273 257 120 240 794 225 262 210 491	3 486 283 3 212 010 2 954 890 2 714 096 2 488 834	167.35 165.73 164.16 162.81	6 604.28 6 436.93 6 271.20 6 107.04 5 944.23	140 186·52 133 582·24 127 145·31 120 874·11	41 42 43 44 45
46 47 48 49 50	13 338 12 664 12 016 11 394 10 795	196 451 183 113 170 449 158 433	2 278 343 2 081 892 1 898 779 1 728 330 1 569 897	161.13 160.39 160.27 160.27	5 782·25 5 621·12 5 460·40 5 300·01 5 139·74	108 822.84 103 040.59 97 419.47 91 959.07 86 659.06	46 47 48 49 50
51 52 53 54	9 665.9 9 133.3 8 620.5	136 244 126 024 4 116 358 5 107 225 2	1 422 858 1 286 614 0 1 160 589 6 1 044 231 1	160°54 160°87 161°54 162°15	4 979.41 4 818.87 4 658.00 4 496.46	81 519·32 76 539·91 71 721·04 67 063·04	51 52 53 54

 $\overline{\mathbf{N}_x = \mathbf{D}_x + \mathbf{D}_{x+1} + \dots}$

 $S_x = N_x + N_{x+1} + \dots$

 $O^{M(5)}$

COMMUTATION TABLE

4 PER CENT.

\boldsymbol{x}	$\mathbf{D}_{m{x}}$	N_x	S_x	\mathbf{C}_{x}	\mathbf{M}_{x}	R_x	\boldsymbol{x}
55 56 57	8 126·8 7 651·4 7 193·6	98 604 [.] 7 90 477 [.] 9 82 826 [.] 5	937 005'9 838 401'2 747 923'3	163.20 164.30	4 334°31 4 171°50 4 008°00	62 566·58 58 232·27 54 060·77	55 56 57
58 59	6 752.6 6 327.9	75 632 9 68 880 3	665 096 8 589 463 9	165.60	3 843·70 3 678·70	50 052.77 46 209.07	58 59
60 61 62 63	5 918 9 5 525 0 5 145 8 4 781 0	62 552 4 56 633 5 51 108 5 45 962 7	520 583.6 458 031.2 401 397.7 350 289.2		3 513·10 3 346·84 3 180·12 3 013·21	42 530'37 39 017'27 35 670'43 32 490'31	60 61 62 63
64 65 66 67 68	4 430'1 4 093'1 3 769'5 3 459'5 3 162'9	41 181.7 36 751.6 32 658.5 28 889.0 25 429.5	304 326.5 263 144.8 226 393.2 193 734.7 164 845.7	163.28 162.06 163.11	2 846 22 2 679 56 2 513 45 2 348 39 2 184 81	29 477'10 26 630'88 23 951'32 21 437'87 19 089'48	64 65 66 67 68
69 70	2 879 [.] 5 2 609 [.] 6	22 266.6 19 387.1	139 416·2 117 149·6	159°14 156°04	1 863.08	16 904·67 14 881·55	69 70
71 72 73 74	2 353 ² 2 110 ⁴ 1 881 ³ 1 666 ¹	16 777.5 14 424.3 12 313.9 10 432.6	9 7 762·5 80 985·0 66 560·7 54 246·8		1 707 [.] 94 1 555 [.] 64 1 407 [.] 72 1 264 [.] 88	13 017 57 11 309 63 9 753 99 8 346 27	71 72 73 74
75 76 77 78	1 465°0 1 278°1 1 105°6 947°31	8 766·5 7 301·5 6 023·4 4 917·82	43 814·2 35 047·7 27 746·2 21 722·77	130°54 123°42 115°72 107°43	1 127 ^{.8} 5 997 [.] 31 873 [.] 89 758 [.] 17	7 081.39 5 953.54 4 956.23 4 082.34	75 76 77 78
79 80	803 [.] 45 673 [.] 80	3 970·51 3 167·06	16 804.95 12 834.44	98·743 89·730	6 5 0.735	3 324·172 2 673·437	79 80 81
81 82 83 84	558·16 456·18 367·40 291·19	2 493°26 1 935°10 1 478°92 1 111°52	9 667·38 7 174·12 5 239·02 3 760·10	80°503 71°236 62°081 53°239	462.262 381.759 310.523 248.442	2 121 445 1 659 183 1 277 424 966 901	82 83 84
85 86 87	226.76 173.18 129.53	820·33 593·57 420·39	2 648.58 1 828.25 1 234.68	44·848 36·990 29·894	195.203 150.355 113.365	718.459 523.256 372.901	85 86 87 88
88 89 90	94.658 67.455 46.777	290 [.] 855 196 [.] 197 128 [.] 742	814·289 523·434 327·237	23.562 18.084 13.527	83·471 59·909 41 · 825	259.536 176.065 116.156	89 90
91 92 93 94	31.451 20.486 12.845 7.766 5	81.965 50.28 17.182 9	198·495 116·530 66·016 35·988 2	9°755 3 6°852 7 4°584 8 2°987 1	28·298 4 18·543 1 11·690 4 7·105 6	74·330 6 46·032 2 27·489 1	91 92 93 94
95 96 97	4.480 7 2.478 5 1.291 8	9.416 4 4.935 7 2.457 2	18·805 3 9·388 9 4·453 2	1.829 9 1.091 3	4°118 5 2°288 6	8·693 1 4·574 6	95 96
98 99	.642 5 .308 9	1.162 4 .25 4	1.996 o 1.996 o	'308 9 '158 4	'597 7 '288 8	1.088 7 .491 o	98 99
100 101 102	138 6 057 1 018 3	'214 0 '075 4 '018 3	°3°7 7 °°93 7 °°18 3	°076 2 °036 6 °017 6		·0718	101

 $N_x = D_x + D_{x+1} + \dots$ $S_x = N_x + N_{x+1} + \dots$

 $\mathbf{O}^{\mathbf{M}(5)}$ logarithms and co-logarithms of D_x , N_x , C_x , M_x $\mathbf{4}_{cent}$.

x	$\log \mathrm{D}_x$	$\log N_x$	$\log \mathrm{C}_x$	$\log M_x$	$\operatorname{col} \operatorname{D}_x$	$\operatorname{col} \mathbf{N}_x$	$\operatorname{col} \mathbf{C}_{x}$	$\operatorname{col} \mathbf{M}_{x}$	\boldsymbol{x}
10 11 12 13 14	4.860 36 .840 66 .820 94 .801 21 .781 47	6°176 73 °155 25 °133 67 °112 00 °090 23	2.630 86 .613 83 .595 47 .577 77 .560 08	4°168 12 °155 33 °142 67 °130 17 °117 82	5.139 64 .159 34 .179 06 .198 79 .218 53	7·823 27 ·844 75 ·866 33 ·888 oo ·909 77	3'369 14 '386 17 '404 53 '422 23 '439 92	5·831 88 ·844 67 ·857 33 ·869 83 ·882 18	10 11 12 13 14
15 16 17 18 19	'761 71 '741 94 '722 15 '702 34 '682 51	.068 36 .046 38 .024 28 .002 06 5.979 72	543 04 526 01 509 64 492 61 475 57	'105 63 '093 57 '081 66 '069 86 '058 21	'238 29 '258 06 '277 85 '297 66 '317 49	'931 64 '953 62 '975 72 _'997 94 6'020 28	'456 96 '473 99 '490 36 '507 39 '524 43	·894 37 ·906 43 ·918 34 ·930 14 ·941 79	15 16 17 18 19
20 21 22 23 24 25	.662 66 .642 79 .622 88 .602 96 .582 99	957 24 934 62 911 85 888 93 865 85	'459 87 '444 81 '428 43 '413 37 '398 29 '384 50	046 71 035 31 024 02 012 86 001 79 3 990 84	337 34 357 21 377 12 397 04 417 01 437 00	042 76 065 38 088 15 111 07 134 15	540 13 555 19 571 57 586 63 601 71	953 29 964 69 975 98 987 14 998 21 7009 16	20 21 22 23 24 25
26 27 28 29 30	503 00 542 96 522 88 502 76 482 58 462 36	.819 16 .795 53 .771 71 .747 68	370 05 356 21 343 62 330 36	979 95 969 15 958 43 947 76	'457 04 '477 12 '497 24 '517 42	157 41 180 84 204 47 228 29 252 32	629 95 643 79 656 38 669 64	020 05 030 85 041 57 052 24	26 27 28 29
31 32 33 34 35	'442 07 '421 71 '401 29 '380 79 '360 19	.698 94 .674 21 .649 23 .623 97	306 80 295 23 285 38 275 41 265 90	926 56 916 01 905 49 894 94	557 93 578 29 598 71 619 21	'301 06 '325 79 '350 77 '376 03 '401 58	.693 20 .704 77 .714 62 .724 59	073 44 083 99 094 51 105 06	31 32 33 34 35
36 37 38 39 40	'339 51 '318 73 '297 83 '276 80 '255 65	'572 57 '546 41 '519 90 '493 05 '465 81	256 82 249 26 242 03 235 12 229 00	·873 80 ·863 19 ·852 49 ·841 71 ·830 83	660 49 681 27 702 17 723 20	'427 43 '453 59 '480 10 '506 95	743 18 750 74 757 97 764 88	126 20 136 81 147 51 158 29	36 37 38 39 40
41 42 43 44 45	'234 35 '212 88 '191 24 '169 41 '147 37	'438 18 '410 14 '381 65 '352 69 '323 23	'223 62 '219 39 '215 26 '211 68 '209 46	'819 83 '808 68 '797 35 '785 83	.765 65 .787 12 .808 76 .830 59 .852 63	.561 82 .589 86 .618 35 .647 31	776 38 780 61 784 74 788 32	•180 17 •191 32 •202 65 •214 17	41 42 43 44 45
46 47 48 49 50 51	'125 09 '102 57 '079 76 '056 66 '033 22 '009 43	'293 25 '262 72 '231 59 '199 85 '167 43 '134 32	'207 18 '206 06 '205 18 '204 86 '205 02 '205 58	762 10 749 82 737 22 724 28 710 94 697 18	1874 91 1897 43 1920 24 1943 34 1966 78 1990 57	706 75 737 28 768 41 800 15 832 57 865 68	792 82 793 94 794 82 795 14 794 98	237 90 250 18 262 78 275 72 289 06 302 82	46 47 48 49 50 51
52 53 54	3.985 24 .960 63 .935 53	134 32 100 45 065 80 030 30	'206 47 '208 28 '209 91	-682 95 -668 20 -652 87	4.014 76 .039 37 .064 47	·899 55 ·934 20 ·969 70	794 42 793 53 791 72 790 09	302 82 317 05 331 80 347 13	52 53 54

 $N_x = D_x + D_{x+1} + \dots$ $S_x = N_x + N_{x+1} + \dots$

 $\mathbf{OM}(5)$ logarithms and co-logarithms of D_x , N_x , C_x , M_x $\mathbf{4}_{cent}$.

\boldsymbol{x}	$\log D_x$	$\log N_x$	$\log C_x$	$\log M_x$	$\operatorname{col} \operatorname{D}_x$	$col N_x$	$\operatorname{col} \operatorname{C}_x$	$\operatorname{col} \mathbf{M}_x$	x
55	3.909 92	4.993 90		3.636 92	4.090 08	5.006 10	3.788 33	4.363 08	55
56 57	·883 74 ·856 95	956 54	21351	620 29	116 26	'043 46	'786 49	379 71	56
			215 64	602-93	143 05	'081 83	784 36	397 07	57
58 59	1829 47	.878 71	217 49	·584 75	170 53	121 29	782 51	415 25	58
	·801 26	.838 09	.219 05	.262 69	.198 24	.161 91.	·78o 95	'434 3 ¹	59
60	772 24	. 796 24	1220 80	·545 69	.227 76	.203 76	'779 20	'454 31	60
61	742 33	753 07	'222 00	.524 64	.257 67	*246 93	778 00	'475 36	61
62	71145	'708 49	.222 47	'502 44	·288 55	.501 21	777 53	'497 56	62
63	679 52	662 41	1222 68	'479 °3	. 320 48	337 59	777 32	.520 97	63
64	·646 41	'614 70	'221 82	454 27	353 59	.382 30	.778 18	545 73	64
65	612 05	.565 28	.220 39	·428 o6	387 95	434 72	.779 61	·571 94	65
66	.576 29	514 00	217 65	400 27	423 71	486 00	782 35	599 73	66
67	·539 oí	460 73	21372	370 77	460 99	539 27	786 28	629 23	67
68	500 08	405 34	208 69	339 41	499 92	594 66	791 31	·66o 59	68
69	459 32	347 65	201 77	306 02	·540 68	652 35	798 23	693 98	69
70	416 58	287 51	193 24	270 44	583 42	71249	806 76	729 56	70
71	371 66	20/51	193 24	270 44	628 34	712 49	817 31		71
72	371 00	159 09	102 09	191 91	675 63	·840 91	829 97	.767 53 .808 09	72
73			17003	191 91					73
74	274 46	090 40	136 80	-	725 54 778 29	.981 91	845 16	851 48	74
	.22171	.018 39	l	102 05		I	'863 20	·897 95	
75	165 84	3'942 83	'115 74	'052 25	·834 16	4.057 17	.884 26	_'947 75	75
76	106 57	'863 41	.001 38	2.998 83	·893 43	136 59	908 62	3.001 14	76
77	·043 58	'779 84	.063 39	'941 46	_'956 42	.550 19	.936 61	*058 54	77
78	2.976 49	691 77	.031 13	·879 77	3.023 21	'308 23	_'968 87	120 23	78
79	·904 96	.298 85	1.994 21	.813 40	·095 04	'401 15	2.002 49	.186 90	79
80	.828 53	.500 66	952 94	.741 93	171 47	'499 34	'047 06	258 07	80
81	.746 76	396 77	905 81	664 89	253 24	603 23	'094 19	'335 11	81
82	659 14	286 70	.852 70	'581 79	·340 86	71330	147 30	418 21	82
83	.565 14	169 94	792 96	'492 09	'434 86	·830 o6	207 04	.207 91	83
84	'464 18	045 92	.726 23	395 22	.535 82	954 08	27377	604 78	84
85	355 56	2.013 99	651 74	'290 49	·644 44	3.086 oı	'348 26	709 51	85
86	238 51	773 47	.268 09	177 12	761 49	226 53	'431 91	822 88	86
87	112 38	62365	475 58	054 48	.887 62	376 35	524 42	945 52	87
88	1.976 16	463 68	372 21	1'921 54	2.023 84	536 32	627 79	2.078 46	88
89	·829 OI	292 69	257 28	777 49	170 99	707 31	742 72	.555 21	89
90	.670 03		1	1		1	868 79		90
91		109 72	131 21	621 44	329 97	·890 28		378 56	91
92	'497 63 '311 45	1.913 63	0.989 24	'451 76 '268 18	·502 37	2.086 37	1.010 76	·548 24	92
93	108 75	703 41	·835 86	067 83	688 55	296 59	164 14	731 82	93
94	0.890 23	477 53	661 32	0.851 60	.891 25	:522 47	338 68	.932 17 1.148 40	94
	1	235 10		1 -	1.100 44	.764 90	1	1	
95	651 35	0.973 88	'262 43	614 74	348 65	1.026 12	737 57	'385 26	95
96	394 18	693 35	-037 96	359 57	605 82	306 65	962 04	640 43	96
97	111119	390 44	ī.777 89	.078 20	.888 81	609 56	0.555 11	921 80	97
98	1.807 85	.066 48	489 79	1.776 48	0.105 12	933 52		0.553 25	98
99	'489 79	1.418 42	199 75	460 60	.210 21	0.581 28	800 24	.239 40	99
100	141 76	-330 41	2.881 69	_115 28	·858 24	669 59	1,118 31	884 72	100
101	2.756 75	2.877 37	'563 63	2.734 00	1.543 5	1.155 63	'436 37	L	101
102	·262 60	262 60	245 57	'245 57	'737 40	'737 40	'754 43	754 43	102
		·	'	-D +	<u>. </u>	•		<u>'</u>	<u> </u>

$$\mathbf{N}_x = \mathbf{D}_x + \mathbf{D}_{x+1} + \dots$$

$$\mathbf{S}_x = \mathbf{N}_x + \mathbf{N}_{x+1} + \dots$$

 $O^{M(5)}$

VALUES OF a_x , A_x , P_x , and of \overline{a}_x , \overline{A}_x , \overline{P}_x

4 PER

			D	_	-	5	
\boldsymbol{x}	a_x	\mathbf{A}_{x}	\mathbf{P}_{x}	a_x	$\overline{\mathbf{A}}_{m{x}}$	$ar{ ext{P}}_{m{x}}$	\boldsymbol{x}
10	19.419	20 312	.00 980	20'215	.20 715	·01 025	10
11	19.634	20 638	000 10	20'130	21 049	·*01 046	11
12	19.246	20 976	'01 021	20.042	21 394	·01 067	12
13	19.455	21 328	'01 043	19.951	21 751	.01 000	13
14	19.359	·21 695	·01 066	19.855	22 127	'01 114	14
15	19.561	.22 076	*01 090	19.757	'22 512	·01 139	15
16	19.128	'22 47 I	.01 112	19.654	.55 916	°01 166 ,	16
17	19.021	·22 883	'01 141	19.247	·23 335	°01 194	17
18	18.940	.53 309	°01 169	19°436	·23 77 I	'01 223	18
19	18.825	23 751	.01 108	19.321	'24 222	·01 254	19
20	18.705	'24 213	·01 229	19.501	·24 69 2	·01 286	20
21	18.281	·24 690	·01 261	19.077	25 179	01 320	21
22	18.452	'25 185	°01 295	18.948	.52 682	·01 356	22
23	18.319	·25 698	.01 330	18.815	·26 206	°01 393	23
24	18.180	.26 230	·01 368	18.676	·26 751	'01 432	24
· 2 5	18.037	.26 782	°01 407	18.233	.27 312	°01 474	25
26	17.888	27 352	·01 448	18.384	·27 897	°01 517	26
27	17.735	27 943	° 01 491	18.531	.28 497	·01 563	27
28	17.576	28 554	°01 537	18.072	.59 150	.01 911	28
29	17.412	·29 186	·01 585	17.908	·29 764	·01 662	29
30	17.242	·29 839	·01 636	17.738	. 30 430	·01 716	30
31	17.066	30 513	·01 689	17.562	'31 121	·01 772	31
32	16.886	'31 210	°01 745	17.382	·31 827	·01 831	32
33	16.699	·31 930	·01 804	17.192	·32 560	01 894	33
34	16.206	.32 670	.01 899	17.002	'33 3 ¹ 7	.01 960	34
35	16.302	³³ 435	·01 932	16.803	'34 097	·02 029	35
36	16.103	34 221	'02 00 I	16.299	·34 898	'02 102	36
37	15.892	35 032	'02 0 74	16.388	35 725	.02 180	37
38	15.675	.35 864	'02 151	16.141	.36 276	.03 262	38
39	15.453	.36 721	.02 232	15.949	·37 447	·02 348	39
40	15.224	.37 59 9	.02 317	15.420	'38 345	°02 439	40
41	14.990	.38 202	°02 408	15.486	·39 263	·02 535	41
42	14.749	39 428	·02 503	15.245	' 40 208	:02 637	42
43	14.203	'40 375	'02 604·	14'999	'41 173	'02 745	43
44	14'250	41 345	`02 711	14.746	'42 165	·02 859	44
45	13'992	.42 338	.02 824	14°488	°43 177	·02 980	45
46	13.729	'43 352	·02 943	14.522	44 209	.03 108	46
47	13.459	·44 386	.03 040	13.922	45 267	°03 244	47
48	13.182	45 442	'03 204	13.681	46 342	.03 387	48
49	12.905	46 518	°03 345	13.401	'47 440	'03 540	49
50	12.621	.47 612	°03 495	13.116	.48 558	.03 205	50
51	12.335	.48 725	·03 655	12.827	49 692	'03 874	51
52	12.038	'49 855	.03 824	12.233	.50 845	.04 057	52
53	11.740	.21 000	.04 003	12.532	.2013	'04 251	53
54	11.439	-*52 160	·04 193	11'934	·53 194	°04 457	54
L	l			<u> </u>		<u> </u>	

 $O^{M(5)}$

VALUES OF a_x , A_x , P_x , AND OF \overline{a}_x , \overline{A}_x , \overline{P}_x

4 PER

x	a_x	\mathbf{A}_{x}	P_{x}	$ar{a}_x$	$\overline{\mathbf{A}}_{m{x}}$	$ar{ ext{P}}_{m{x}}$	\boldsymbol{x}
55	11.133	'53 333	°04 396	11.628	54 394	.04 678	55
56	10.822	54 519	.04 611	11'320	55 602	'04 912	56
57	10.214	55 716	.04 839	11,000	.56 822	·05 161	57 -
58	10.500	.56 922	05 082	10.692	.28 023	05 428	5 8
59	9.885	·58 134	·05 341	10.380	·59 289	05 712	59
60	9.568	·59 354	·05 616	10.063	·60 532	·06 o15	60
61	9.250	·60 577	.05 910	9'745	·61 781	·06 340	61
62	8.932	·61 800	.06 222	9'426	63 030	·o6 68 ₇	62
63	8.614	·63 o25	·06 556	9.107	64 281	·07 058	63
64	8.296	·64 248	.06 911	8.790	65 527	° 07 455	64
65	7.979	·65 465	·07 29 I	8.472	·66 77 I	·07 88 I	65
66	7.664	·66 678	·07 696	8.122	·68 oog	·08 3 3 8	66
67	7.351	67 883	68 129	7.843	·69 2 38	·o8 828	67
68	7.040	·69 o76	.08 592	7.532	'70 457	°9 354	68
69	6.733	·70 259	•09 086	7.225	·71 664	,00 91 9	69
70	6.429	71 427	09 615	6.921	72 857	10 527	70
71	6.130	72 579	.10 180	6.621	. 74 0 33	'11 182	71
72	5.832	73 712	10 785	6.326	75 191	11 887	72 70
73	5.242	.74 827	11 432	6.036	76 328	12 646	73 74
74	5.565	75 917	12 124	5.421	·77 443	13 466	_
75	4.984	.76 986	12 865	5.473	·78 535	14 350	75
76	4.413	·78 o3o	13 659	5.501	.79 601	15 305	76
77	4.448	·79 046	14 508	4.936	80 641	.16 338	77
78	4'191	·80 035	15 417	4.678	81 652	17 454	78 79
79	3.945	·80 9 92	.16 389	4.428	·82 635	¹18 664	
80	3.700	'81 922	17 429	4.182	.83 586	19 972	80
81	3'467	82 819	18 540	3.921	·84 505	°21 390	81 82
82 83	3'242	·83 685 ·84 518	19728	3.724	·85 392 ·86 246	22 927	83
84	3.022 2.817	·85 318	·20 997 ·22 351	3°507 3°297	·87 o69	°24 595 °26 408	84
85	•	·86 o86	_ 1				85
86	2'618	·86 818	23 796	3.096	·87 857 ·88 610	28 378	86
87	2°427 2°245	·87 519	· 25 331 · 26 967	2.4 2.4 2.4	.89 331	.30 512 .32 839	87
88	2.073	·88 182	28 699	2.246	.00 016	32 361	88
89	1,000	.88 814	30 535	2.379	90 668	33 302	89
90		.89 412	·32 488	2,551	91 291	'41 111	90
91	1.42	·89 977	32 400 34 525	2.072	91 291	44 347	91
92	1.466	90 517	·36 709	1.050	92 436	44 347	92
93	1,338	.008	38 931	1.494	92 951	'51 717	93
94	1,515	·91 489	41 352	1.669	·93 456·	.26 008	94
95	1'102	.91 916	43 738	1.224	'93 905	.60 432	95
96	.991	'92 340	46 368	1.440	94 353	65 537	96
97	902	92 685	·48 726	1.346	'94 721	70 378	97
98	· 8 14	.03 031	·51 286	1.53	95 087	. 75 906	98
99	•693	.03 200	.231	1,156	·95 583	·84 872	99
100	·544	·94 o85	·60 935	972	·96 190	·99 oo6	100
101	.321	94 896	·71 884	.742	·97 091	1.30 955	101
102	.000	·96 154	·96 154	414	·98 376	2.34 915	102

 $O^{M(5)}$

VALUES OF a_x , A_x , P_x , and of \overline{a}_x , \overline{A}_x , \overline{P}_x

\boldsymbol{x}	$a_{m{x}}$	$\mathbf{A}_{m{x}}$	\mathbf{P}_{x}	\bar{a}_x	$\overline{\mathbf{A}}_{oldsymbol{x}}$	$ar{ ext{P}}_{m{x}}$	\boldsymbol{x}
					-		
10	19.419	'20 31 2	.00 980	20.512	.20 712	·01 025	10
11	19.634	20 638	,01 000	20.130	*21 049	·*01 046	11
12	19.246	20 976	01 021	20.042	'21 394	°01 067	12
13	19.455	.51 358	'01 043	19.951	21 751	.01 000	13
14	19.359	21 695	'01 o66	19.855	22 127	'01 114	14
15	19.561	.22 076	.01 000	19.757	22 512	. 01 139	15
16	19.128	'22 47 I	°01 115	19.654	.55 016	°01 166 ,	16
17	19.021	.22 883	° 01 141	19.247	°23 335	°01 194	17
18	18.940	.53 309	01 169	19.436	'23 771	°01 223	18
19	18.825	23 751	.01 108	19.321	'24 222	·01 254	19
20	18.705	.24 213	°01 229	19.201	·24 692	·01 286	20
21	18.281	·24 690	·01 261	19.077	. 25 179	°01 320	21
22	18.452	.25 185	°01 295	18'948	.25 685	°01 356	22
23	18.319	·25 698	°01 330	18.812	°26 206	°01 393	23
24	18.180	.26 230	·01 368	18.676	·26 751	·01 432	24
· 25	18.037	.26 782	'01 407	18.233	27 312	·01 474	25
26	17.888	27 352	°01 448	18.384	27 897	'01 517	26
27	17.735	·27 943	°01 491	18.331	'28 497	°01 563	27
28	17.576	28 554	°01 537	18.072	'29 120	.01 911	28
29	17.412	.29 186	°01 585	17.908	·29 764	°01 662	29
30	17.242	·29 839	·01 636	17.738	·30 430	·01 716	30
31	17.066	'30 513	·01 689	17.562	31 121	01 772	31
32	16.886	'31 210	°01 745	17.382	'31 827	·01 831	32
33	16.699	. 31 930	°01 804	17.195	32 560	·01 894	33
34	16.206	.32 670	.01 8 <u>9</u> 9	17'002	'33 317	.01 960	34
35	16.302	'33 435	·01 932	16.803	'34 097	.02 029	35
36	16.103	'34 221	°02 001	16.299	'34 898	'02 102	36
87	15.892	35 032	'02 074	16.388	35 725	. 02 180	37
38	15.675	.35 864	·02 151	16.171	·36 576	.02 262	38
39	15.423	.36 721	02 232	15'949	'37 447	·02 348	39
40	15.224	.37 59 9	.02 317	15.720	·38 345	·02 439	40
41	14'990	.38 202	02 408	15.486	39 263	·02 535	41
42	14'749	39 428	02 503	15.245	·40 208	:02 637	42
43	14.203	'40 375	02 604	14.999	41 173	'02 745	43
44	14.50	41 345	02 711	14.746	42 165	·02 859	44
45	13'992	42 338	.02 824	14°488	43 177	. 02 980	45
46	13.729	43 352	02 943	14.525	'44 209	.03 108	46
47	13.459	·44 386	'03 070	13.955	45 267	°03 244	47
48	13.182	45 442	·03 204	13.681	'46 342	·o3 387	48
49	12.902	46 518	·03 345	13'401	. 47 440	·03 540	49
50	12.621	.47 612	°03 495	13.116	·48 558	.03 702	50
51	12.332	48 725	·03 655	12.827	°49 692	·03 874	51
52	12.038	.49 855	.03 824	12.233	.50 845	·04 057	52
53	11.40	.21 000	·04 003	12.532	.2013	°04 251	53
54	11.439	-52 160	·04 193	11'934	·53 194	·04 457	54

 $\mathbf{OM}(5)$

VALUES OF a_x , A_x , P_x , AND OF \overline{a}_x , \overline{A}_x , \overline{P}_x

4 PER

x	a_x	\mathbf{A}_{x}	\mathbf{P}_{x}	\overline{a}_x	$\overline{\mathbf{A}}_{x}$	$ar{\mathrm{P}}_{m{x}}$	\boldsymbol{x}
55	11.133	53 333	°04 396	11.658	·54 394	·04 678	55
56	10.822	54 519	.04 611	11'320	.22 602	04 912	56
57	10.214	55 716	·04 839	11,000	.56 822	.02 161	57
58	10.500	56 922	05 082	10.692	.58 053	05 428	58
59	9.885	·58 i 34	·05 341	10.380	.59 289	05 712	59
60	9.568	59 354	·05 616	10.063	·60 532	·06 015	60
61	9.250	60 577	·05 910	9.745	·61 7 81	·06 340	61
62	8.932	.61 800	.06 222	9.426	63 030	·o6 687	62
63	8.614	·63 o25	·o6 556	9.107	64 281	·07 058	63
64	8.296	·64 24 8	.06 911	8.790	65 527	°07 455	64
65	7.979	.65 465	·07 29 I	8.472	·66 771	·07 881	65
66	7.664	·66 678	·07 696	8.124	·68 oog	·o8 3 3 8	66
67	7.351	67 883	·08 129	7.843	·69 23 8	·o8 828	67
68	7.040	·69 o76	08 592	7.532	70 457	°09 3 54	68
69	6.733	·70 259	·09 086	7.225	·71 664	.09 919	69
70	6.429	71 427	09 615	6.921	.72 857	10 527	70
71	6.130	72 579	.10 180	6.621	.74 o33	11 182	71
72	5.835	73 712	10 785	6.326	75 191	11 887	72 79
73	5.242	.74 827	11 432	6.036	.76 328	12 646	73 74
74	5.565	75 917	12 124	5.42 I	·77 443	13 466	
75	4.984	·76 986	12 865	5.473	.78 535	14 350	75
76	4.413	.48 030	13 659	5.501	.49 601	.12 302	76
77	4'448	·79 046	14 508	4.936	·80 641	16 338	77
78 79	4'191	.80 0 35	15 417	4.678	81 652	17 454	78 79
1	3'942	·80 992	16 389	4.428	82 635	·18 664	
80	3.700	81 922	17 429	4.182	·83 586	19 972	80
81 82	3.467	·82 819	18 540	3.921	84 505	21 390	81 82
83	3'242	·83 685 ·84 518	19728	3.724	·85 392 ·86 246	22 927	83
84	3.022 2.817	·85 318	·20 997 ·22 351	3°5°7 3°297	·87 o69	°24 595 °26 408	84
85		·86 o86		_ 1	·87 857		85
86	2.618	.86 818	23 796	3.096 2.004	·88 610	·28 378	86
87	2°427 2°245	·87 519	·25 331 ·26 967	2'720	·89 331	.30 512 .32 839	87
88	2.073	88 182	28 699	2.246	.00 019	.32 361	88
89	1.000	·88 814	30 535	2.379	90 668	.38 107	89
90	1.752	·89 415	·32 488	2'221	91 291	'41 111	90
91	1,20	189 977	32 400 34 525	2.072	91 875	44 347	91
92	1.466	90 517	36 709	1,050	92 436	47 932	92
93	1,338	'91 008	38 931	1.797	92 951	'51 717	93
94	1,515	·91 489	41 352	1.669	°93 456′	·56 oo8	94
95	1,105	91 916	43 738	1.224	·93 905	·60 432	95
96	. 991	92 340	·46 368	1.440	'94 353	65 537	96
97	1902	92 685	.48 726	1.346	94 721	.70 378	97
98	814	.03 031	·51 286	1.523	·95 087	.75 906	98
99	•693	·93 500	·55 231	1.159	·95 5 ⁸ 3	.84 872	99
100	` 544	94 085	·6o 935	972	.96 190	·99 o o6	100
101	. 321	·94 896	.71 884	742	·97 091	1.30 025	101
102	.000	96 154	·96 154	414	·98 376	2.37 613	102

 $\mathbf{OM}(5)$

logarithms of a_x , A_x , P_x , and of \overline{a}_x , \overline{A}_x , \overline{P}_x

4 PER

		1 A	lam D	1 7	10 m A	1 D	<i>m</i>
x	log a _x	$\log \mathbf{A}_x$	$\log P_x$	$\log a_x$	$\log A_x$	$\log \overline{\mathrm{P}}_x$	x
			7		- 60	7	
10	1'316 37	7.307 76	3.000 08 3.000 08	1.302 84	ī·316 28	2'010 64	10
11	'314 59	'314 67 '321 73	009 00	303 84	323 23	019 37	11 12
12 13	·312 73 ·310 79	328 96	018 17	'301 94 '299 96	'330 29 '337 48	.028 37 .037 51	13
14	310 79	336 35	027 59	297 87	337 40	037 31	14
1 1						l .	
15	.306 65	343 92	037 27	295 72	352 41	.056 68	15
16	'304 44	351 63	'047 19	°293 45 °291 08	'360 14 '368 01	.066 70 .076 93	16 17
17	302 13	359 51 367 52	·057 38 ·067 80	291 08	308 01	·087 43	18
18 19	·299 72 ·297 21	307 32	'078 51	·286 o3	370 05	·098 16	19
1 .	l .			1	_	· ·	
20	.294 28	'384 05	'089 47	.283 32	·392 56	109 24	20
21	291 83	392 52	.100 69	280 51	'40I 04	120 51	21
22	·288 97	'401 14	112 17	277 56	'409 68	1132 10	22 23
23	·285 97 ·282 86	'409 90 '418 80	123 93	'274 50 '271 28	'418 40	143 89 156 06	24
24	į	'	135 94	1 '	427 34		
25	279 59	427 84	148 25	.267 95	436 35	168 41	25
26	.276 20	436 99	160 79	264 44	445 56	.181 10	26
27	272 65	'446 27	173 62	'260 81	454 80	193 99	27
28	•268 95	455 67	186 72	257 01	464 19	207 20	28
29	·265 10	465 18	.500 08	253 05	'473 69	·220 63	29
30	.261 07	474 79	'21372	·248 90	·483 30	234 39	30
31	.256 87	'484 49	227 62	·244 57	493 05	·248 46	31
32	.252 20	'494 30	'241 80	'240 10	.202 80	·262 69	32
33	'247 94	504 20	256 26	235 40	.512 68	277 29	33
34	'243 18	.214 12	·270 97	'230 50	•522 67	'292 17	34
35	.238 23	'524 20	.285 97	225 39	.232 72	'307 32	35
36	.233 06	534 29	301 23	·2 20 08	.542 80	322 72	36
37	.227 68	.544 46	.316 78	.514 23	.25 ² 97	·338 46	37
38	.222 07	554 66	332 59	208 74	.563 20	354 45	38
39	.216 25	.264 91	'348 66	202 73	·573 42	·370 68	39
40	.510 19	.575 18	.365 02	196 45	.283 71	'387 27	40
41	.203 83	.585 48	.381 65	189 94	.593 98	'404 05	41
42	197 26	.292 80	'398 54	.183 13	604 31	421 19	42
43	190 41	.609 11	'415 70	176 06	61461	'438 54	43
44	183 28	616 42	'433 14	168 67	.624 95	456 27	44
45	17586	626 73	'450 87	.191 01	635 25	474 25	45
46	·168 16	637 01	·468 85	.123 02	'645 51	492 45	46
47	.160 12	647 25	'487 10	144 73	655 78	511 05	47
48	151 83	657 46	.205 63	136 12	665 97	.529 85	48
49	143 19	667 62	·524 43	127 14	·676 14	·549 02	49
50	134 21	.677 72	·543 51	117 80	686 26	.568 46	50
51	124 89	.687 75	•562 86	108 13	696 29	.288 16	51
52	115 21	·697 71	.582 50	.008 oe	.406 25	.608 19	52
53	105 17	707 57	602 40	.087 60	716 11	628 51	53
54	· 0 94 77	717 34	622 57	·076 79	.725 86	·649 07	54
4 !				1			

OM(5) LOGARITHMS OF a_x , A_x , P_x , and of \overline{a}_x , \overline{A}_x , \overline{P}_x

\boldsymbol{x}	$\log a_x$	$\log { m A}_x$	$\log P_x$	$\log \overline{a}_x$	$\log \overline{\mathbf{A}}_{x}$	$\log \overline{\mathrm{P}}_x$	· an
55	1.083 08	ī·727 00	<u>-</u> 2.643 02	1.062 21	ī'735 55	<u>2</u> ·670 05	55
56	·072 80	.736 55	.663 75	.053 85	745 09	691 25	56
57	·061 22	745 98	·684 76	'041 75	754 52	71277	57
58	'049 24	755 28	'706 04	.029 18	763 82	'734 65	58
59	'036 83	'764 43	727 60	·016 20	772 97	756 77	59
60	'024 00	773 45	749 45	.002 73	.781 99	.779 26	60
61	'010 74	782 31	771 57	0.988 46	790 85	1802 09	61
62	0.997 04	790 99	793 95	974 34	799 55	825 21	62
63	982 89	799 51	816 62	959 39	.808 08	.848 69	63
64	968 29	807 86	.839 57	'943 96	.816 42	872 45	64
65		·816 o1	862 78	928 00	.824 59	·896 59	65
66	953 23	·823 98	886 27		·832 57	921 05	66
67	937 71	831 76	910 04	'911 51 '894 50	·840 34	921 83	67
68	921 /2	.839 33	910 04	876 93	·847 92	970 99	68
69	888 33	·846 70	958 37	·858 82	855 30	996 48	69
1		1		-			70
70	.870 93	·853 86	_'982 93	'840 15	·862 47	1.022 30	71
71	.853 07	.860 81	1.007 74	'820 91	*869 43	048 52	72
72	834 72	*867 54	032 82	.801 10	.876 17	.075 07	78
78 74	815 94	·874 o6	058 12	.780 72	·882 68	101 95	74
1	796 68	·88o 34	·083 66	759 76	.888 98	129 24	· .
75	.776 99	·886 41	109 42	738 22	·895 o6	156 85	75
76	'756 84	1892 26	135 42	.416 00	900 92	.184 83	76
77	'736 26	·897 88	161 62	.693 36	.906 26	213 20	77
78	715 28	903 28	.188 00	.670 07	.911.92	241 90	78
79	693 89	·908 44	*214 55	.646 17	.917 16	·271 00	79
80	672 13	'913 40	241 27	62171	922 13	'300 42	80
81	650 01	91813	.268 12	.596 67	·926 88	.330 21	81
82	627 56	922 65	295 09	.221 02	'931 42	·36o 35	82
83	·604 80	926 95	322 15	·544 9°	'935 74	·390 85	83
84	'581 74	'931 04	'349 30	.21813	·9 3 9 86	'421 74	84
85	558 43	·934 93	.376 50	·490 80	'943 78	452 98	85
86	534 96	938 61	403 65	·463 oı	947 48	'484 47	86
87	511 27	942 10	430 83	434 62	951 00	516 39	87
88	487 52	'945 38	'457 86	'405 79	954 32	.548 52	88
89	463 68	·948 48	·484 80	·376 45	. 957 45	.281 00	89
90	439 69	.951 41	.21172	·346 47	·960 43	61396	90
91	416 00	954 13	538 13	316 33	963 20	·646 86	91
92	391 96	956 73	564 77	285 22	965 84	·68o 63	92
93	368 78	959 08	590 30	254 62	968 25	71363	93
94	344 87	961 37	616 50	222 35	·970 6ĭ	.748 25	94
95	322 53	963 39	·640 86	191 42	972 69	.781 27	95
96	299 17	965 39	666 22	158 27	974 76	81649	96
97	279 25	967 01	.687 76	129 05	976 45	·847 44	97
98	258 63	968 63	71000	.097 85	978 12	·88o 28	98
99	228 63	.970 81	.742 18	051 62	980 38	·928 76	99
100	188 65	973 52	784 87	ī·987 47	'983 13	995 66	100
101	120 62	973 3-	856 63	.870 17	987 18	0.112 01	101
102	.000 00	982 97.	'982 97	617 02	992 89	375 86	102
		, ,,,		' - ; '		1 3.3	·

 $O^{M(5)}$

VALUES OF TEMPORARY ANNUITIES OF 1

Dura-	10	II	12	13	14	15	16	17	18	19	Dura-
tion.	19-719	19.634	19.546	19.455	19.359	19.261	19.158	19:051	18.940	18.825	tion.
0	.000	.000	.000	.000	,000	.000	,000	*000	.000	'000	0
1	.956	956	956	956	956	955	955	.955	955	955	1
2	1.869	1.869	1.869	1.869	1.869	1.868	1.868	1.868	1.868	1.868	2
3 4	2.742	2.241	2.741	2.241	2.741	2'741	2.740	2.740	2.740	2.740	3
	3.575	3.575	3.575	3.575	3.574	3.574	3.574	3.573	3.573	3.272	4
5 6	4'372 5'134	4'372 5'133	4'371 5'133	4'371. 5'132	4'371 5'131	4.370 2.131	4.369	4.369 2.150	4.368	4.367	5
7	5.861	5.860	5.860	5.859	5.858	5.857	5.826 2.130	5.855	5.823	5°127 5°852	6 7
8	6.226	6.555	6.554	6.223	6.22	6.221	6.249	6.248	6.246	6.244	8
9	7.220	7.219	7.218	7.216	7.215	7.213	7.212	7.210	7.208	7.206	9
10	7.854	7.853	7.851	7.850	7.848	7.846	7.844	7.842	7.839	7.837	10
1	8.460	8.459	8.457	8.455	8.453	8 451	8 448	8.445	8.442	8.439	1
2	9.039	9.037	9.032	9.033	9.030	9.028	9.025	9.031	9.018	9.014	2
3	9.592	9.290	9.287	9.584	9.582	9.578	9.575	9.271	9.267	9.262	3
4	10.150	10.112	10'114	10,111	10.108	10.104	10,100	10.000	10.001	10.086	4
15	10.624	10.621	10.618	10.614	10.610	10.606	10.602	10.296	10.201	10.282	15
6 7	11.262	11.201	11.099	11.094	11'090	11.082	11.080	11.074	11.068	11,001	6
န်	12.004	12.000	11.222	11,223	11 546	11.978	11.236	11.230	11.523	11.212	7 8
9	12'423	12'418	12'413	12'407	12'401	12.394	12.387	11'964	11.956	11.948	9
20	12.823	12.818	12.813	12.806	12.799	12.791	12.783	12.774	12.764	12.753	20
ĩ	13.502	13,100	13,163	13.182	13.148	13,169	13.160	13.120	13,130	13.152	ı
2	13.269	13.263	13.256	13.248	13.239		13.20	13.200		13.483	2
3	13.917	13.000	13.002	13.893	13.884	13.874	13.862	13.850	13.837	13.823	8
4	14.548	14.540	14'232	14.555	14.515	14.501	14.189	14.176	14'161	14'145	4
25	14.264	14.256	14.246	14.236	14.525	14.213	14.200	14.485	14'469	14'452	25
в	14.866	14.856	14.846	14.835	14.823		14.795	14.780	14.762	14.744	6
7	15.123	15.143	15'132	15.150	15.107		15.077	15.000	15.041	15.021	7
8	15.427	15.416	15.404	15.391			15.344	15.326	15.306	15.284	8 9
			15.663	15.649	15.634	15.617	15.299	15.57.9	15.557	15.233	
30 1	15.936	15.923	16.144	15.894 16.128	15.878	16.901	15.840	15 [.] 819	15.795	15.770	30 1
2	16.398	16.383	16.367	16.320	16.331		16.287	16.263	16.536	15'994	2
3	16.613	16.296	16.229	16.261	16.240	16.218	16'494	16.468	16.439	16.402	3
4	16.816	16.799	16.481	16.261	16.739	16.715	16.689	16.661	16.630	16.597	4
35	17:009	16.991	16.972	16.951	16.927	16.903	16.875	16.845	16.812	16.776	35
6	17.193	17.174	17.154	17.131		17.079	17.050	17.018	16.983	16.942	6
7	17.368	17:348	17.326	17.301	17.275	17:246	17.215	17.181	17.144	17.104	7
8	17.534	17.512	17.489	17.463	17.435	17.404	17:371	17.335	17.296	17.253	8
9	17.691	17.668	17.643	17.616		17.554				17.394	9
40		17.815				17.694	17.657	17.617		17.525	40
1 2	17.981	17.955	17.927	17.896	17.863		17.787	17.745	17.698	17.648	1 2
3	18.540	18.511		18.146	18.108			17.977		17.870	3
4	18.329	18.358	18.592	18.529	18.550	18.148		18.085		17.969	4
45	18.471	18.439	18.404	18.366	18.322	18.580	18.535	18.179	18.155	18.061	45
В	18.27	18.243	18.206	18.466			18.322	18.270	18.510	18.146	6
7	18.676	18.640	18.603	18.559	18.214	18.465	18.412	18.354	18.591	18.224	7
8	18.769	18.731	18.691	18.647	18.299	18.548		18.432	18.366	18.296	8
9	18.856	18.817	18.774	18.728	18.678	18.624	18.266	18.203	18.435	18.362	9
	10	II	12	13	14	15	16	17	18	19	
L	<u> </u>	<u></u>	<u> </u>	, •		00	L	<u> </u>	<u> </u>		

 $O^{M(5)}$

VALUES OF TEMPORARY ANNUITIES OF 1

Dura-	20	21	22	23	24	25	26	27	28	29	Dura-
tion.	18.705	18.581	18.452	18:319	18.180	18.037	17:888	17:735	17.576	17:412	tion.
0	.000	.000	.000	.000	.000	.000	.000	'000	.000	.000	0
1	'955	'955	'955	'955	955	'955	'955	'955	955	954	1
2	1.868	1.868	1.864	1.864	1.862	1.862	1.866	1.866	1.866	1.862	2
8	2.739	2.739	2.439	2.738	2.738		2.737	2.736	2.735	2.732	8
4	3.22	3.221	3.240	3.220	3.269	3.268	3.267	3.266	3.262	3.264	4
5	4.367	4.366	4.362	4.364	4.363	4.361	4.360	4.358	4'357	4'355	5
6	5.156	5.124	5.153	5.155	5.130		2.116	5.114	5.113	5.100	6
7	5.821	5.849	5.847	5.845	5.843		5.838	5.835	5.832	5.829	7
8	6.243	6.240	6.238	6.232	6.235	6.230	6.256	6.23	6.219	6.214	8
9	7.503	7.200	7.198	7.194	7.191	7.187	7.183	7.178	7.173	7.168	9
10	7.834	7.830	7.827	7.823	7.819	7.814	7.809	7.803	7.797	7.791	10
1	8.435	8.431	8.427		8.417		8.406	8.399	8.392	8.384	1
2	6.010	9.002	9.000	8.994	8.988	8.982	8.974	8.966	8.958	8.948	2
8	9.257	9.22	9.246	9.239	9.232	9.525		9.202	9.497	9.486	8
4	10.080	10.074	10.064	10.029	10.021	10.042	10.032	10.031	10.010	9'997	4
15	10.248	10.241	10.263	10.224	10.242	10.232	10.23	10.211	10.498	10.483	15
6	11.023	11.042	11.039	11.056	11.019	11.004	10,001	10.977	10.965	10.942	6
7	11.206	11.497	11.487	11.476	11'464	11.451	11'436	11'420		11.384	7.
8	11.938	11.928	11.916	11.904	11.890	11.875	11.859	11.841	11.822	11.801	8
9	12.349	12.338	12.322	12,311	12.296		12.501	12.541	12.550	12.192	9
20	12.741	12.728	12.714	12.698	12.685	12.663	12.643	12.621		12.24	20
1	13'114	13,100	13.084	13.064	13.048	13.058	-	12.982	12.956	12.927	1
2	13.469	13.453	13.436	13.417	1 : 1	13.372	13.320	13.324	13.502	13.563	2
8	13.807	13.789	13.771	13.750	13.728	13.403	13.677	13.647	13.616	13.282	8
4	14.158	14.109	14.089	14.066	14.042	14.012	13.986	13.924	13.920	13.885	4
25	14.433	14.413	14'390	14.366	14.339	14'310	14.279	14.544	14.502	14.166	25
6	14.723	14.201	14.677	14.620		14.290		14.218	14'478	14.433	6
7	14.999	14'974	14.948	14.919		14.854	14.817	14.777	14'733	14.685	7
8	15'260	15.534	15.502	15.174	15.141	15'104	15.064	15.050	14'974	14'922	8
9	15.208	15.479	15.449	15.415	15.379	15.340	15.297	15.520	15.500	15'144	9
30	15.742	15.712	15.679	15.643	15.604	15.265	15.216	15.466	15.412	15.323	80
1	15.962	12.932	15.897	15.828	15.817	15.471	15.425	15.668	-	15.247	1
2	16.172	16'140	16.105	16.001	16.014	15.968		15.858	15.797	15.729	2
8	16.373	16.336	16.296	16.252	16'204	16.123	16.097	16.036		15.899	8
4	16.261	16.21	16.478	16.431	16.381	16'326	16.566	16.505	16.132	16.056	4
35	16.738	16.695	16.650	16.600		16.488	16.424	16.356	16.585	16.505	35
6	16.904	16.859	16.811	16.758	16.401	16.639	16.272	16.499	16.421	16.334	6
7 8	17.000	17.013	16.961	16.902	16.845	16.480	16.209	16.632	16.220	16.461	7
ı s	17.207	17.157	17.102	17.043	16.980	16.911	16.836	16.755 16.868	16.222	16.575	8
1	17.345	17.292	17.234	17'172	17'104	17.032	16.953				
40		17.417		17.291		17.144			16.877		40
1 2	17.594	17.534	17.471						- 1	16.859	1
8		17.643		17.504			17.251			16.034	2 3
4	17.809	17.744	17.674	17.598				17.231	17.123	17.068	4
			17'764	17.684		17.507					1
45	17.995	17.923		17.763	17.674	17.578	17.475	17:365	17.248	17.123	45
8 7	18.077 18.152	18.002		17.835			17.536		17.301	17.171	6 7
8	18.551	18.074 18.139		17.050			17.590	17.472	17:347	17.213	8
9	18.283	18.199	18.052	18.011		17.752	17.679	17.554	17.422	17.281	ş l
		199			-7 900	-1 191	-1 3/9	-1 334			
	20	21	22	23	24	25	26	27	28	29	

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VALUES OF TEMPORARY ANNUITIES OF 1

Dura-	30	31	32	33	34	35	36	37	38	39	Dura-
tion.	17.242	17:066	16.886	16.699	16.506	16.307	16.103	15.892	15.675	15.453	tion.
0	.000	.000	•000	*000	.000	.000	.0 00	.000	.000	.000	0
1 2	'954 1'865	'954 1'865	°954 1'864	°954 1°864	'954 1·863	'953 1'862	'953 1'862	.953 1.861	'953 1'860	'952 1'859	1
3	2.734	2.733	2.732	2.731	2.730	2.729	2.727	2.726	2.724	2.722	2 3
4	3.263	3.261	3.260	3.228	3.226	3.554	3.552	3.249	3.247	3.244	4
5	4'353	4'351	4.348	4.346	4'343	4.340	4'337	4'333	4'329	4'325	5
8 7	5.825	5.821	5°100	5.813 2.813	5.806	5.088 2.088	5°084 5°794	5.078 5.488	5.043 5.480	5.067 5.472	6 7
8	6.210	6.204	6.499	6.493	6.486	6.478	6.470	6.462	6.452	6.441	8
9	7.162	7.155	7'148	7'141	7.132	7.123	7.113	7.102	7.090	7.077	9
10	7.783	7.775	7.767	7.757	7.747	7.736	7.723	7.710	7.695	7.679	10
1 2	8·375 8·938	8·365 8·927	8.355 8.355	8·343 8·901	8·331 8·886	8·318 8·870	8·303 8·853	8·286 8·833	8.813	8·250 8·790	1 2
3	9'474	9.460	9.446	9.430	9'413	9.394	9.374	9.352	9.328	9,301	3
4	9.983	9.968	9.921	9.933	9.913	9.891	9.868	9.842	9.814	9.784	4
15	10.467	10.420	10,430	10'410	10.384	10.365	10.336	10.306	10.524	10.540	15
. 6 . 7	10'927	10'907	11.317	11.500	11,363	11,530	10.778	10.745	11.118	10.669	6 7
8	11.778	11.753	11.726	11.696	11.664	11.629	11,200	11'549	11.204	11.454	8
9	12.171	12.143	12.113	12.080	12.044	12.002	11.962	11.016	11.866	11.811	9
20	12.244	12.212	12.479	12'442	12.402	12.329	12.312	13.361	13.300	12.146	20
1 2	12.896	12.862	12.822	12.784	12.741	12.693	12.642	12.285	12.22	12.459	1
8	13'229	13.203	13'151	13'107	13.328	13.302	13.540	13.123	13.101	12.751	3
4	13.842	13.797	13.749	13.696	13.639	13.278	13.211	13'438		13.54	4
25	14.122	14.073	14'021	13'964	13.003	13.836	13.764	13.685	13.601	13.210	25
6 7	14.386 14.634	14.333	14.277	14'215	14'149	14'077	13.999	13.012	13.824	13.726	6
8	14.867	14.277	14.741	14.670	14.379	14.302	14'421	14'128	14'031	13.925	7 8
9	15.082	15.050	14.950	14.874	14.792	14.704	14.608	14.202	14.395	14.276	9
30	15.589	15.550	15.142	15.064	14.976	14.882	14.781	14.671	14.254	14.428	30
1 2	15'480 15'657	15.406	15.326	15.239	15'147	15.047	14.939	14.823	14'699	14.266	1
3	15.822	15.238	15.493	15.402	15.303	15.336	15.084	14.961	14'831	14.690	2 3
4	15.975	15.886	15.791	15.689	15.279	15.461	12.332	12.199		14.001	4
35	16.116	16.055	15.922	15.814	15.699	15.575	15.442	15.301	15.120	14.989	85
6	16.246	16.147	16.042	15.929	15.807	15.678	15.239	15.391		15.067	6
8	16.365	16.366	16.121	16.035	15.902	15.770	15.625	15.471	15'308	15.134	8
9	16.243	16.460	16.339	16.500	16.021	15.925	15.768	15.603	15.428	15.543	Ð
40	16.663	16.245	16.419	16.284	16.141	15.989	15.827	15.656	15.475	15.285	40
1	16.745	16.621	16.490	16.350						15.321	1
2 3		16.689		16.408 16.459		16.033	15.048	15 740	15.220	15.350	2 3
4		16.803		16.203	16.340	16.169	15.988	15.799	12.601	15.394	4
45		16.849	16.699	16.241	16.374	16.198	16.014	15.821	15.620	15.409	45
6		16.889		16.572		16.553			15.634	15.421	В
7 8		16.923		16.21 16.21	16.425	16.5243	16.062	15.863		15'431	8
9		16.976		16.639	16.459	16.521		15.872		15'442	9
<u> </u>	30	31	32	33	34	35	36	37	38	39	
<u> </u>			<u> </u>	1 33	<u> </u>			3/		37	

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VALUES OF TEMPORARY ANNUITIES OF 1

.PER

Dura-	40	41	42	43	44	45	46	47	48	49	Dura-
tion.	15.224	14.990	14:749	14.503	14.250	13.992	13.729	13.459	13.185	12.905	tion.
0	.000	.000	.000	,000	.000	.000	,000	,000	.000	.000	0
1	.952	952	.951	.951	.951	.950	. 949	. 949	·948	'947	1
2	1.828	1.857	1.826	1.822	1.853	1.852	1.820	1.849	1.847	1.844	2
8	2.420	2.418	2.716	2.714	2.411	2.708	2.402	2.401	2.697	2.693	3
4	3.240	3.537	3.233	3.23	3.24	3.219	3.214	3.208	3.202	3.494	4
5	4.350	4.312	4.300	4.303	4.596	4.588	4.580	4.571	4.565	4.521	5
6	2.060	5.023	5.042	5.036	5.027	5.016	5.002	4'992	4'979	4.964	в
7	5.763	5.753	5.743	5.431	5.418	5.402	5.690	5.673	5.622	5.636	7
8	6.430	6.418	6.404	6.389	6.373	6.355	6.336	6.312	6.505	6.267	8
9	7.062	7.047	7.030	7.012	6.991	6.969	6.945	6.919	6.891	6.860	9
10	7.661	7.643	7.622	7.600	7.575	7.548	7.219	7.487	7.453	7.415	10
1	8.550	8.306	8.181	8.122	8.152	8.093	8.058	8.030	7.979	7.935	1
2	8.765	8.739	8.709	8.678	8.643	8.602	8.264	8.220	8.472	8.419	2
3	9.272	9.241	9.207	9.170	9.130	9.086	9.039	8.987	8.932	8.871	8
4	9.751	9.412	9.676	9.634	9.587	9.537	9.483	9.424	9.360	9.591	4
15	10'202	10.191	10,119	10.068	10.019	9'959	9.897	9.830	9.758	9.679	15
6	10.05	10.281	10.230	10.476		10.325	10.583	10.302	10.154	10.030	6
7	11.026	10.974	10.018	10.824		10.419	10.641	10.222	10.467	10.369	7
8	11'401	11.343	11.580	11,513	11,130	11.029	10.043	10.881	10.481	10.673	8
9	11.752	11.688	11.619	11.244	11'462	11.372	11.580	11.178	11.069	10.921	9
20	12.080	15,010	11.934	11.852	11.762	11.066	11.263	11.451	11.332	11'203	20
1 1	12.387	12.310	12.532	12'137	12.030	11.932	11.822	11.401	11.272	11'432	1
2	12.673	£2.289	12.498	12'400	12.292	13,181	12.029	11'928	11.489	11.639	2
3	12.938	12.847	12'749	12.643	12.23	12.406	12.542	12,132	11.985	11.824	8
4	13'184	13.086	12.980	12.866	12.743	13.611	12.471	12,350	13,190	11.089	4
25	13'411	13.306	13.192	13.069	12.938	12.797	12.647	12.487	12.317	12'136	25
6	13.620	13.207	13.382	13.255	13'114	12.965	~	12.636	12.456	12.264	в
7	13.812	13.692	13.262	13'423	13.274	13.112	12.947	12.767	12.278	12.376	7
8	13.088	13.860	13.721	13.274	13'417	13.249	13.071	12.883	12.684	12.473	8
9	14.148	14.015	13.866	13.410	13.244	13.368	13.181	12.984	12.776	12.226	9
30	14'293	14'149	13.992	13.831	13.657	13'472	13.277	13.071	12.855	12.627	30
1	14'423	14.272	14.110	13.939	13.756	13.263		13'146		12.686	1
2	14.240	14.382	14'212	14'033	13.843	13.642	13'431	13.500	12.978	12.735	2
3	14.645	14'479	14.302	14'115	13.917	13.709	13'491	13.565	13.054	12.775	8
4	14.737	14.264	14.380	14'186	13.982	13.767	13.242	13.304	13.065	12.807	4
35	14.819	14.639	14.448	14'247	14.036	13.815	13.284	13.343	13.093	12.833	35
6	14.890	14.703	14.206	14.299	14.082	13.854	13.618	13'372	13.112	12.853	6
7	14'951	14.758	14.255	14.343	14'119	13.887	13.645	13.395	13.136	12.868	7
8	15.003	14.805	14.596	14'379	14.120	13.013	13.667	13.412	13.120	12.879	8
9	15.048	14.844	14.631	14.408	14.172	13'934	13.684	13.426	13,161	12.888	9
40	15.082	14.877	14.659	14:432	14'195	13.950	13.697	13.436	13.169	12.894	40
1	12,119	14'904	14.681	14.450		13.962				12.898	1
2	15'142	14.925				13.972					2
3	15.165	14.942	14.713			13.978				12.002	3
4	15.178	14'955	14.723	14.484			13.723	13.455		12.903	4
45	15.191	14'965	14.731			13.986		13.457		12.904	45
6	15.501	14'973	14.737				13.726				6
7	15.508	14.978								12'905	7
8	15.513	14.982	14.744	14.200		13.991	13.728	13.459		12.905	8
9	15'217	14.985	14.746	14.201		13.992	13.728			12'905	9
	40	41	42	43	44	45	46	47	48	49	
	70	7-	45	73	44	43	40	7/	40	49	

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VALUES OF TEMPORARY ANNUITIES OF 1

Dura-	50	51	52	53	54	55	56	57	58	59	Dura-
tion.	12.621	12.332	12.038	11.740	11.439	11.133	10.825	10.514	10.200	9.885	tion.
0	.000	,000	,000	.000	.000	.000	.000	.000	,000	.000	0
1	'947	•946	'945	'944	'943	'942	.940	.939	·937	·935	1
2	1.842	1.839	1.837	1.834	1.830	1.822	1.853	1.818	1.814	1.808	2
3	2.688	2.683	2.678	2.671	2.662	2.628	2.620	2.641	2.632	2.622	3
4	3.487	3.478	3.469	3.459	3.448	3.436	3'423	3.409	3'394	3.377	4
5 6	4.240	4'227	4.513	4'198	4'182	4'165	4'145	4.122	4'102	4.077	5
7	4.948 5.615	4.931	4.015	4.891	4.869	4.844	4.818	4.789	4.758	4.724	6 7
8	6.540	6.511 2.201	5.264 6.146	5.239 6.144	5.210 6.104	5°478 6°066	5°443 6°022	5°4°5 5°974	5.364 5.922	5.320 5.867	8
9	6.826	6.790	6.751	6.708	6.661	9.911	6.222	6.498	6.435	6.366	9
10	7'375	7:330	7.283	7.231	7.175	7.112	7.049	6.979	6.903	6.821	10
1	7.887	7.834	7.778	7.716	7.650	7.578	7.203	7.419	7:330	7.234	1
2	8.363	8.301	8.236	8.164	8.087	8.004	7'915	7.819	7.716	7.606	2
3	8.806	8.735	8.659	8.577	8.489	8 ·3 93	8.291	8.185	8.064	7.939	8
4	9.217	9.132	9.049	8.956	8.855	8.748	8.632	8.209	8.377	8.237	4
15	9.296	9.204	9.407	9.302	9.189	9.069	8.940	8.802	8.656	8.200	15
6	9'945	9.843	9'734	9.617	9.492	9.358	9.216	9.064	8.902	8.731	6
7	10.562	10.125	10.035	9.903	9.765	9.618	9.462	9.295	9.119	8.933	7
8	10.228	10.434	10.302	10.191	10.010	9.850	9.679	9'499	9.309	9.108	8
_	10.822	10.690	10.246	10.395	10.558	10.022	9.871	9.677	9.472	9.258	9
20 1	11.067	10.030	10.764	10.298	10'421	10.532	10.038		9.613	9.385	20
2	11.480	11.150	10.959	10.780	10.201	10.392	10.183	9'962	9.732	9.491	1 2
3	11.655	11.310	11.131	10.041	10.240	10.238	10.306	10.074	9.831	9°579 9°651	8
4	11.800	11.617	11.415	11'202	10.978		10,411	10.242	9'914 9'982	9.710	4
25	11'945	11.742	11.23	11.302	11.041	10.826	10.243	10.308	10.036	9.756	25
в	12.063	11.820	11.627	11.303	11'149	10.895	10.632	10,320	10.030	9.791	6
7	12.166	11'943	11.410	11.467	11'214	10,021	10.680	10,400	10,113	9.819	7
8	12.253	12.031	11.780	11.28	11'267	10.997	10.718		10.138	9.839	8
9	12.358	12.084	11.838	11.578	11.309	11.035	10.747	10.455	10'157	9.854	9
30	12.390	12'142	11.882	11.918	11'343	11.060	10.770	10.473	10'172	9.865	80
1	12.442	12.186	11.923	11.620	11.340		10.787	10.487	10.181	9.872	1
2	12.484	12.222	11.953	11.675	11.390		10.499	10.496	10.188	9.877	2
3 4	12.218	12.221	11.977	11.694	11.402	11,100	10.808	10.203	10.103	9.880	3 4
35	12.245	12.273	11.994	11.708	11.416	11'117	10.814	10.207	10,100	9.882	1
6	12.282	12.303	12.008	11.719	11.423	11'123	10.818	10.210	10,108	9.884	35 6
7	12.594	12,313	12 018	11.726	11'429	11'127	10.821	10.213	10,100	9.884 9.885	7
8	12.603	12,310	12.023	11.734	11.433	11,131	10.823	10.213	10'200	9.885	8
9	12.609	12.323	12.033	11.737	11.436	11,135	10.824	10,214	10.500	9.885	9
40	12.613	12.326	12.032	11.738	11.437	11,133	10.825	10.214	10.500	9.885	40
1	12.616	12.328	12.036	11'730	11.438	11:133	10.825	10.214		9.885	1
2	12.618	12.329	12'037	11.730	11.7438	11,133			10.500	9.885	
3	12.019	12.330	12.037	11'740	11.738	11,133	10.822	10.214	10.500	9.885	
4	12 020	12'331	12.038	11.240	11.438			10.214		59	
45 6	12.621	12.331	12.038	11.740	11.438	11.133	10.825		58	50	
1 7	15.651	12.331	12'038	11.740	11.438	11.133	10.825	57	51	l ———	
8	1	12.331	12.038	11'740	11.439	11 133		52		12.621	.]
9	12.621	12.331	12.038	11.40					12.332	12.621	52
1			1	''				12.038	12.332	12.621	
 			<u> </u>					12.038	12.335	12.631	50
	50	51	52	53	54	55	56	52	51	50	
									<u> </u>	1 5-	

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VALUES OF TEMPORARY ANNUITIES OF 1

4 PER

Dura-	60	бī	62	63	64	65	66	67	68	69	Dura-
tion.	9.568	9.250	8.932	8.614	8.296	7.979	7.664	7:351	7:040	6.733	tion.
0	.000	.000	.000	.000	.000	,000	.000	.000	.000	.000	0
1	. 933	.931	929	927	924	.921	.918	'914	.910	·9 0 6	1
2	1.803	1.797	1.790	1.783	1.775	1.766	1.757	1.747	1.735	1.723	3
3 4	2.611	2.299	2.282	2.271	2.256	2.239	3.213	3.181 5.201	2'479 3'147	2'456 3'110	4
5	3.359	3'339	3,318	3°295 3°956	3.520	3.880 3.880	3.837	3.791	3.742	3.688	5
6	4.051 4.687	4.648	3.990 4.602	4.559	4.209	4.455	4'397	4'335	4.268	4.197	6
7	5.272	2.550	5.162	5.104	5.040	4.970	4.896	4.817	4.731	4.641	7
8	5.806	5.741	5.672	5.257	5.216	5.430	5.338	5'240	5.136	5.052	8
9	6.593	6.514	6.150	6.038	5.941	5 ^{.8} 37	5.727	5.610	5.485	5'354	9
10	6.734	6.640	6.239	6.432	6.317	6.192	6.066	5.929	5.482	5.633	10
	7.131	7.022	6.902	6.780	6.648		6.359	6.503	6.039	5.867	1
3	7.488	7:362	7.228	7.086	6.936	6.777	6.611	6.435	6.252	6.061	2 3
4	7.806	7.664	7.513	7.354	7.186	7.009	6.824	6.630	6.428	6.347 6.344	4
15	8.087	7'929 8'160	7.762	7.585 7.783	7'400	7.205	7.002	6.791	6.572	6.448	15
6	8.335 8.335	8.360	7.976 8.160	7.951	7.581	7:37° 7:506	7.121	7.029	6.481	6.27	6
7	8.737	8.532	8.317	8.092	7.859		7.369	7.113	6.852	6.284	7
8	8.897	8.677	8.448	8.209	7.962	7:707	7.446	7.179	6.907	6.632	8
9	9.033	8.799	8.556	8.304	8.045	7.779	7.206	7.229	6.948	6.665	9
20	9.147	8.900	8.645	8.381	8.111	7.834	7.552	7.267	6.978	6.688	20
1	9.241	8.983	8.716	8.442	8.165	7.876	7.587	7.294	6.999	6.404	1
2	9.318	9.049	8.773	8.489	8.301	7.908	7.612	7.313	7.014	6.412	2
3 4	9.380	9,105	8.817	8.226	8.230	7'931	7.630	7:327	7.024	6.722	3 4
	9.430	9,143	8.850	8.223	8.252	7.947	7.642	7.336	7.030	6.727	
25 6	9.468	9'174	8.876	8.573	8.267	7.959	7.651	7'342	7.034	6.730 6.731	25 6
7	9.497	9.198	8·894 8·907	8·587 8·596	8·277 8·284	7.967 7.972	7.656	7°346 7°348	7.038	6.732	7
8	9.219	9.552	8.016	8.603	8.589	7.975	7.661	7'349	7.039	6.732	8
9	9.546	9.236	8.922	8.607	8.292	7.977	7.663	7.350	7.039	6.733	9
30	9.554	9.241	8.926	8.610	8.294	7'978	7.663	7:350	7.039	6.733	30
1	9.260	9'245	8.929	8.612	8.295	7.978	7.664	7.350	7.040	6.733	1
2	9.263	9'247	8.930	8.613	8.295	7 '979	7.664	7.351	7.040	6.733	2
3	9.262	9.249	8.931	8.613	8.296	7.979	7.664	7.351	7:040	6.733	3
4	9.267	9.250	8.932	8.613	8.296	7.979	7.664	7.351	7.040	69	
35 6	9.567	9.250	8.932	8.614	8.296	7'979	7.664	7:351	68	40	
7	9.568 9.568	9.250	8.932 8.932	8.614 8.614	8.296	7.979	7.664 66	67	41		
8	9.268	9.250	8.932	8.614	8.296	7 979 65		42	l ———	15.224	
9	9.268	9.520	8.932	8.614	64		43	14.749	14.990	15.524	62
40	9.268	9.250	8.932	63		44	14.503		14'990	15.224	1
1	9.268	9.250	62	44	45	14.250		14.749	14.990	15.224	60
2	9.268	61	47	46	13.992			14.749		15.224	59 8
	60	48	47	13.729		14.250		14.749			7
	49	40	13.459	13.729		14 250				-	6
		13.185	13.459	13.729		14.520					5
	12.905	13.182		13.729		14.50					54
53	12.902	13.182	13'459	13.729		14.220					8
2	12.902	13.182	13'459	13.729	13.992	14.50	14.203	14.449	14.089	15.555	2
1	12.002	13.182	13'459	13.729	13.992	_	14.202		14.988		1
50	12.902	13.182	13.459	13.728	13.992	14.520	14.205	14.747	14.987	15.510	50
	49	48	47	46	45	44	43	42	41	40	

 $O^{M(5)}$

VALUES OF TEMPORARY ANNUITIES OF 1

Dura-	70	71	72	73	74	75	76	77	78	79	Dura-
tion.	6.429	6.180	5.835	5.545	5.262	4.984	4.713	4.448	4:191	3.942	tion.
0	.000	,000	.000	.000	.000	.000	.000	000	.000	.000	0
1	.902	.897	.891	.886	.879		.862	.857	.848	·839	1
2	1'710	1.696	1.681	1.664	1.646	1.627	1,606	1.284	1.259	1.233	2
3	2'431	2'404	2'375	2'344	2,310	2.274	2.232	2.193	2'149	2'101	8
4	3.070	3.027	2.081	2.931	2.879	2.822	2.762	2.698	2.630	2.228	4
5 6	3.631	3.240	3.202	3.435 3.862	3.361 3.765	3·282 3·663	3.199	3,110	3.018	3°203	5 6
7	4°121 4°545	4'040	3'953 4'334	4.550	4.100	3'974	3.256 3.843	3'443 3'706	3'325 3'565	3.419	7
8	4.908	4.784	4.653	4.212	4'374	4'225	4'071	3,011	3.748	3.280	8
9	5.516	5.070	4.018	4.759	4.595	4'424	4.248	4.068	3.884	3.698	9
10	5.474	5.307	5.134	4'955	4.769	4'579	4.384	4'185	3.984	3.782	10
1	5.688	5.201	5.308	5.100	4.902	4.697	4.485	4.271	4.022	3.840	1
2	5.862	5.657	5.446	5.530	5.000	4.785	4.559	4'332	4'105	3.879	2
3	6.003	5.781	5.224	5.322	5.087	4.850	4.612	4.374	4.138	3.004	8
4	6.112	5.877	5.636	2.391	5'144	4.896	4.649	4'402	4.160	3.920	4
15	6.505	5.951	5.697	5'441	5'184	4.928	4.673	4'421	4'173	3.930	15
[.] 6 7	6.268	6.006	5.742	5.477	5.513	4'949	4.689	4'433	4°181 4°186	3.936	6 7
8	6.318	6.046	5°774 5°796	5.202	5°231	4.063	4.699	4.440	4.180	3.939	8
9	6.354 6.380	6.032 6.032	5.811	5.25 5.25	5'251	4.978 4.978	4°705 4°709	4°444 4°446	4.100	3'940 3'941	9
20	6.398	6.108	5.821	5.236	5.526	4.981	4.711	4'447	4,131	3'942	20
1	6.410	6.112	5.827	5.240	5.259	4.982	4'712	4.448	4,101	3'942	1
2	6.418	6.155	5.830	5.543	5.500	4.983	4'712	4.448	4.191	3.942	2
3	6.423	6.136	5.833	5.244	5.561	4.984	4.713	4'448	4.191	3.942	3
4	6.426	6.138	5.834	5.545	5.561	4.984	4.713	4.448	4,191	79	
25	6.427	6.139	5.834	5.245	5.565	4.984	4.413	4.448	78		
6	6.428	6.139	5.835	5.545	5.565	4.984	4.713	77	27	30	
7	6.429	6.139	5.835	5.545	5.262	4.984	76	22	31	17:242	
8	6.429	6.130	5.835	5.242	5.262	75	22		17.066	17.242	72
	6.429	6.130	5.835	5.545	74	34	33	16.886	17.066	17.242	î
30 1	6:429	6.130	5 ^{.8} 35	78	35		16.699	16.886	17.066	17.242	70
2	6.429 6.429	6°130		36		16.506	16.699	16.886	17.066	17.242	69
_	70		37		16.307	16.206	16.699	16.882	17.066	17.242	8
		38	15.892	16.103	16.304	16.206	16.698		17.066	17.242	7
	39	15.675		16.103	16.304	16.206			17.066	17.242	6
	15.453		15.892	16.103		16.206	16.698	16.882	17.066	17.242	5
200		15.675	15.892	16.103		16.206		16.885	17.066	17'242	64
63	15.453	15.675		16.103		16.206	16.608 16.608	16.885		17.241	3 2
2	15°453	15.675	15.892	16.103	16.304	16 .2 02	16.692	16.885		17.240	1
60	15.423		15.892			16.202	16.697		17.065		60
59	15.453			16.103		16.202			17.063		59
8	15.453	15.675	15.802	16.105	16.306	16.207	16.696			17.235	8
7	15.453	15.675		16.103	16.306	16.203	16.692	16.880		17.232	7
6	15.453	15.675	•	16.101	16.302	16.205	16.693	16.878	17.056	17.558	6
5	15.452	15.675	15.890	16.100	16.304	16.200	16.690	16.874		17.222	5
54		15.674		16.099			16.687			17.214	54
3	0 .0	15.673	15.888	16.097			16.681	16.863		17.204	3
2			15.886	16.094		16.488		16.854		17'191	2 1
50	15'446	15.666	15.882	16.083	16.581	16.481 16.471	16.666 16.654	16.843	16.013	17.172	50
<u> </u>											
	39	38	37	36	35	34	33	32	31	30	
						26					

 $O^{M(5)}$

VALUES OF TEMPORARY ANNUITIES OF 1

Dura-	80	81	82	83	84	85	86	87	88	89	Dura-
tion.	3.700	3.467	3.242	3.025	2.817	2.618	2.427	2.245	2.073	1.909	tion.
0	,000	.000	.000	.000	.000	*000	.000	.000	.000	.000	0
1 1	*828	.817	.802	793	·779	. '764	.748	'731	.713	.693	1
3	1.202	1.476	1.444	1'410	1.373	1.332	1'295	1.52	1.502	1.100	2
4	2°051 2°483	2.403	1'941 2'320	1.881 2.34	1.818 2.143	1.752	1.024	1.822	1.222	1.463	8 4
5	2.819	2.714	2.604	2.491	2'375	2.020	1,924 5,136	2.014	1.891	1.760	5
8	3.026	2.046	2.813	2.675	2.236	2.395	2.224	2'113	1.973	1.835	6
7	3.269	3.112	2.060	2.802	2.644	2.485	2.328	2.173	2.031	1.872	7
8	3'409	3.236	3.062	2.888	2.714	2.242	2.373	2.502	2.047	1.891	8
9	3.209	3.350	3,131	2.944	2.758	2.576	2.399	2.556	2.000	1,001	9
10	3.579	3.376	3.176	2.979	2.785	2.296	2'413	2.236	2.062	1.902	10
1	3.625	3.413	3.504	3.000	2.800	2.607	2.421	2.241	2.070	1.907	1
2	3.656	3.436	3.551	3.013	2.809	5.615	2.424	2.544	2.072	1.908	2
8 4	3.675	3.450	3.531	3,010	2.813	2.615	2.426	2.542	2.072	1,000	3
15	3.686	3.458	3.237	3.022	2.815	2.617	2.427	2.542	2.073	89	
6	3.693	3.463	3.239	3.034	2.816	2.617	2.427	2.242	88	20	
7	3.699 3.699	3°465 3°466	3°241	3.025	2.817	2.618	2°427 86	87	21		
8	3.400	3.467	3.242	3.022	2.817	85		22		18.705	
9	3.700	3.467	3.545	3.022	84		23	18.452	18.581	18.705	82
20	3.700	3.467	3'242	83		24	10,910		18.281	18.705	1
1	3.700	3.467	82		25	18.180	18.319	18.452	18.281	18.705	80
2	3.700	81		26	18:037		18.319	18.452	18.281	18.705	79
	80		27	17.888		18.180	18.319	18.452	18.281	18.705	8
1	- 30	28	17.735	17.888	18.037	18.180 18.180	18.318	18.452	18.281	18.705	7
1	29	17.576	17.735	17.888	18.037	18.180	18.318	18.452 18.452	18.281	18.705	6 5
	17.412	17.576	17.735	17.888	18.037	18.180	18.318	18.452	18.281	18.705	
73	17'412	17.576	17.735	17.888	18.037	18.180	18.318	18.452	18.280	18.704	74 3
2	17.412	17.576	17.735	17.888	18.037	18.180	18.318	18.452	18.280	18.704	2
1	17.412	17.576	17.735	17.888	18.037	18.180		18.452	18.280	18.704	ī
70	17.412	17.276	17.735	17.888	18.037	1 8 .180	18.318	18.451	18.579	18.703	70
69	17.412	17.576	17.735	17.888	18.037	18.180	18.318	18.451	18.579	18.702	69
8	17.412	17.276	17.735	17.888	18.037	18.179		18.450	18.578	18.701	8
7	17.412	17.576	17.734			18.179			18.576	18.699	7
6 5	17.411	17.576	17.734	17.888	18.036	18.178	18.315	18.447	18.274	18.696	6
64	17.411	17.576	17.734	17.887	18.032	18.177	18.313	18.445	18.571	18.692	5
3	17.411	17.575	17.733	17.886	18.033	18.172	18.311	18.442	18.567	18.687	64
2		17.575 17.574	17.732	17.883	18.035	18.169	18.308 18.304	18.438 18.432	18.562	18 [.] 681	3 2
1	17.409	17.572	17.729	17.880		18.162	18.298	18.426	18.247	18.663	1
60		17.270	17.726		18.031	18.120	18.501	18.417	18.237	18.621	60
59	17:405	17.567	17.722	17.871		18.121				18.636	59
8	17.402	17.263	17.717		18.007	18'142	18.270	18.393	18.509	18.619	8
7	17:398	17.258	17.710	17.857	17'997	18.130	18.256	18.377	18.490	18.598	7
6	17:392	17.220		17.846		18.112		18.357	18.469	18.574	в
5	17.385	17.241	17.690	17.833		18.097			18.444	18.246	5
54	17.375	17.230	17.677	17.817	17:950	18.076	18.196	18.308		18.214	54
8 2		17.212	17.660	17.798		18.052		18.278		18.478	3
ĺi	17 340	17.498	17.640	17.775	17.902	18.023	18.100 18.130			18.437	2
50	17:307	17.451	17.587	17.716	17.837	17.989	18.028	18.1203		18.340	1 50
		28									
	29	20	27	26	25	24	23	22	21	20	

 $O^{M(5)}$

VALUES OF TEMPORARY ANNUITIES OF 1

Dura-	90	91	92	93	94	95	96	97	98	99	Dura-
tion.	1.752	1.606	1.466	1.338	1.212	1.102	·991	•902	·814	.693	tion.
0	.000	,000	.000	.000	.000	.000	.000	.000	.000	.000	0
1	.672	.621	.627	.602	·577	. 553	521	*497	·481	*449	1
2	1,110	1.000	1.006	953	896	:841	.780	.736	.696	.634	2
3	1.382	1.304	1.552	1.146	1.065	985	905	*844	.785	.693	3
4	1.221	1.449	1.346	1.542	1.142	1,024	.961	*888	.814	99	
5	1.647	1.28	1.409	1.592	1.182	1.082	•984	.902	98	10	
6 7	1.700	1.269	1.440	1,351	1.503	1.097	.991	97	II		
8	1.727	1,289	1.452 1.462	1,336	1,510	1,105	96	12		19.719	
9	1.748	1.604	1.465	1,338	94	95	13	19.546	19.634	19.719	92
10	1.751	1.606	1.466	93		14			19.634	19.419	1
lī	1.752	1.606	92		15	10.050	19.455	19.246	19.634	19.419	90
2	1.752	91		16	19.261	19.359	19.455	19.246	19.634	19.419	89
	90		17	19.158		19.329	19.455	19.246	19.634	19.419	8
		18	19.051		19.561	19.359	19.455	19.546	19.634	19.719	7
	19	18.940		19.128	19.561	19.359	19.455	19.546	19.634	19.719	6
	18.825		19.021	19.128	19.561	19.359	19.455	19.246	19.634	19.719	5
		18.940	19.021		19.261	19.359	19.455	19.546	19.634	19.719	84
83	18.825	18.940 18.940	19.021		19,561	19.359	19.455	19.246	19.634	19.419	3 2
2	18.824	18.940	19.021	, ,	19 201	19.329	19'454	19.246	19.634	19.718	1
80	18.824	18.940	19.021		19.591	19,329	19.454	19.246	19.633	19.718	80
79	18.824	18.940	19.021		19.500	19,329	19.454	19.246	19.633	19.717	79
8	18.824	18.940	19.021		19.500	19,329	19.454	19.242	19.632	19.716	8
7	18.824	18.040	19,020	,	19.500	19.329	19.453	19.244	19.631	19.715	7
6	18.824	18.939	19.020	19.124	19.260	19.328	19.453	19.243	19.630	19.713	8
5	18.824	18.939	19.020	19.157	19.259	19.357	19.451	19.242	19.628	19.711	5
74	18.824	18.939	19.020	19.126	19.258	19.356	19.450	19.240	19.626	19.708	74
3	18.824	18.939	19.049	19.122	19.257	19.355	19.448	19.237	19.622	19.704	3
2	18.823	18.938	19.048	19.124	19.255	19.352	19.445	19.234	19.618	19.699	2
1	18.823	18.937	19.047	19.125	19.223	19.320	19.442	19.230	19.613	19.692	1
70	18.822	18.936	19.042	19.120	19.220	19.346	19.437	19.224	19.606	19.685	70
69	18.820	18.934	19.043	19.147	19.246	19.341	19.431	19.217	19.598	19.675	69
8	18.818	18.931	19.040		19.241	19.332	19.424	19.209	19.288	19.664	8
7	18.816	18.928	19.032	19.137	19.235	19.327	19.415	19.498	19.577	19.651	7
6 5	18.807	18.918	19.030	19.131	19'227	19.318	19.404	19.486	19.263	19.618	6 5
	18.801	18.010	19.014	19,173	19.314	19'307	19.392	10,422	19.547	19.298	64
84	18.794	18.001	19'004	-	19,195	19.294	19.377	19.436	19.208	19.575	3
2	18.784	18.890	18.991	19.086	19.175	19.500	10,339	19,414	19.484	19.249	2
ľi	18.773	18.877	18.976	10.008	19.126	19'239	10.316	19.389	19.456	19.20	ī
60	18.759	18.861	18.958	19.048	19.134		19.500	19.360	19.426	19.488	60
59	18.742	18.842	18.937			19.187	19.260	l _	-	19.452	59
8	18.722	18.820	18.912			19.126	19.227	19.293	19.354	19.412	8
7	18.699		18.885	18.969	19.047	19.121	19.189	19.254	19.313	19.368	7
в	18.673	18.766	18.853	18.934	10,011	19.082	19.148	19,510	19.562	19.320	6
5	18.642	18.733	18.817	18.896	18.970	19.039	19.103	19.165	19.217	19.568	5
54	18.608	18.695	18.777	18.854	18.925	18.991	19.023	19,110	19.163	19.515	54
3	18.269	18.653	18.733	18.806	18.875	18.939	18.998		19.104	19.121	3
2	18.525	18.607	18.683	18.754	18.820	18.882	18.938	18.991	19.040	19.082	2
1 50	18 · 476	18.255	18.629	18.697	18.460	18.819	18.874	18 924 18 852	18.897	19.014	1 50
		18.498	18.269	18.634	18.695	18.752	18.804				
	19	18	17	16	15	14	13	12	II	10	

RATIOS OF ANNUITIES-DUE.

FOR COMPARISON OF POLICY-VALUES.

$$\frac{O_{m}}{H_{m}}$$
, $\frac{O_{m(2)}}{H_{m}}$, $\frac{O_{m}}{H_{m(2)}}$, $\frac{O_{m(2)}}{H_{m(2)}}$, $\frac{O_{m(2)}}{O_{m}}$

 $2\frac{1}{2}$, 3, and $3\frac{1}{2}$ per cent.

RATIOS OF ANNUITIES-DUE

 H^{M} , $H^{M(5)}$, O^{M} , $O^{M(5)}$

 $\frac{\mathbf{8}x}{\mathbf{8}'x}$

FOR COMPARISON OF POLICY-VALUES

 $2^{rac{1}{2}}$ per

	Нм	HM	H ^{M(5)}	H ^{M (5)}	OM		Нм	HM		HM(5)	O	_
Age	Ом	O _{M (p)}	Ом	OM (5)	OM(5)	Age	Ом	Оми	о) Ом	OM(5)	Ом	[(5
x	f_x	gx	h_x	j_x	k_x	æ	f_x	gz	h_x	j_x	k.	æ
20	.9708	· 9 956	9360	.0600	1.0256	65	9855	.986		'9795	1,00	009
21	.9719	'9953	'9375	.0901	1'0241	66	'9854	.986		9796	1.00	007
22	9732	'9952	19402	'9614	1.0556	67	9850	.985	6 '9789	9796	1,00	006
23	'9746	·9952	'9433	.9633	1.0313	68	'9841	'984		.9788	1,00	005
24	.9758	.662.	'9470	9656	1.0192	69	9822	982	5 '9771	9774	1,00	004
25	·9768	'9947	9507	.9681	1.0183	70	9798	'980	1 '9748	9751	1,00	003
26	.9776	19942	'9540	'9702	1.0140	71	9770	'977	3 '9720	9722	1,00	002
27	.9782	'9937	9568	.9719	1.0128	72	'9745	'974	6 '9691	'9693	1,00	002
28	. 9789	'9932	.9596	9735	1.0142	73	'9727	'972		'9672	1.00	100
29	'9797	.9928	.9619	9748	1.0134	74	'9723	'972	4 '9664	9665	1,00	100
30	.9802	9926	9638	'9757	1'0123	75	'9735	973	5 '9677	9677	1,00	000
31	9814	9925	9653	9762	1,0113	76	9747	'974		.9691	1,00	000
32	9822	9925	.9666	9767	1.0104	77	9760	'976	0 '9711	'9711	1,00	000
33	9830	'9924	9677	'9770	1.0096	78	9775	'977	5 '9724	9724	1,00	000
34	[.] 98 37	'9924	.9686	.9772	1.0089	79	'9784	.978	4 '9736	9736	1,00	000
35	9844	9924	.9694	9773	1.0085	80	·9791	'979	1 '9752	9752	1,00	000
36	9849	9924	'9704	.9778	1.0076	81	'9807	.980		9771	1,00	000
37	9856	9925	9716	'9784	1.0040	82	9846	.984	6 9808	9808	1,00	000
38	9862	9928	'9727	.9791	1.0066	83	.9909	'990		9868	1.00	000
39	.9869	.9930	·97 3 9	'9799	1,0065	84	1,0003	1,000		'9949	1,00	000
40	9876	.9933	9749	9806	1.0028						1	_
41	·988o	'9934	9757	.9810	1.0022				NOTE.			
42	9883	'9934	9761	.9812	1.0025	l			HOLE.			
43	·9884	9932	9764	.9811	1.0049			1			Ī	_
44	·988 3	.9930	.9763	.9809	1.0042	$_{n}\nabla_{x}$ by	the		$_{n}\nabla'_{x}$ by the	i		
45	9882	9927	9762	.9806	1'0045	TTV (T.)	L1.	1	OM M. 11.	ا م	ł	
46	9882	9925	9762	.9803	1.0043	Н™ Та	Die,	ł	O ^M Table,	asf_x		f_{x+n}
47	9882	9923	9762	9802	1,0041	"	,,	1	OM(5) ,,	" g _x	i	9x+n
48	9885	9923	9764	.08oı	1.0039	l "	-	İ				
49	9887	9925	9767	.9803	1,0038	,,	"	l	Ом & Ом(5) Та	bles ,, f_x	j	9x+11
50	.0890	9925	9772	.9806	1'0035	HM(5)	39	1	O ^M Table,	$, h_x$	į	h_{x+n}
51	9892	9925	9777	.9810	1'0034	I —		İ		,,x		~ 2.7 %
52	19891	9923	9781	.9813	1.0033	,,	,,	1	OM(2) "	" j _x		j _{x+n}
53	·9889	9920	.9784	9815	1,0031	l		>=<	Ом & Ом(в) Та	bles " h_x		i
54	9888	9917	9788	.9816	1.0029	"	"	1		,, <i>10</i>	> = <	Jx+n
55	9885	'9912	.9790	.9817	1.0027	H™ & F	I ^{M(5)} Tables,		O ^M Table,	,, f _x	İ	h _{x+n}
56	9882	9907	9790	9815	1.0022	l .			OW(2)	ا ہ		
57	.9879	9902	9791	9813	1.0053	"	33		"	" g _x		Ĵz+¤
58	9875	9896	'9790	.9811	1.0051	,,	,		OM & OM(5) Ta	bles " f_x		j _{z+n}
59	.9870	·9889	9787	.9807	1.0050	OM Tal		ł	OM(5) Table,	_		
60	.9865	·9882	.9784	.0801	1.0018	U ¹⁸ !	ore,		1	$,, k_x$		k_{x+n}
61	.9861	9876	9781	.9797	1,0016	,,	30		OM & OM(5) Ta	bles ,, 1		k_{x+n}
62	9858	9871	9780	.9793	1.0014	ı				_		
63	9855	9867	9778	.9790	1,0015	OM(2)	29		,, y,	,,1		k_x
64	9855	9865	.9780	·9791	1.0011	ı		j		i	1	

RATIOS OF ANNUITIES-DUE

 H^{M} , $H^{M(5)}$, O^{M} , $O^{M(5)}$

 $\frac{\mathbf{a}_{x}}{\mathbf{a}'_{x}}$

FOR COMPARISON OF POLICY-VALUES

3 PER

Age	O _M H _M	H ^M O ^{M(5)}	Ом Н _{м(2)}	HM(5)	О _{ж (2)}	Age	O _M H _M	О _{М (2}		Ом (2) Нм(2)	<u>Ом(г)</u>
x	f_x	g _x	h_x	jæ	k_x	x	fæ	g_x	h_x	jæ	k_x
20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37	9720 9731 9744 9757 9769 9778 9785 9785 9798 9813 9822 9838 9838 9844 9850 9856 9856	9961 9958 9957 9957 9955 9955 9946 9941 9933 9933 9930 9930 9929 9928	9385 9398 9424 9455 9490 9526 9558 9558 9612 9635 9635 9681 9668 9681 9692 9700 9707	9618 9618 9630 9648 9671 9695 9715 9732 9747 9760 9775 9779 9781 9782 9784 9789	1'0248 1'0233 1'0219 1'0205 1'0191 1'0178 1'0165 1'0152 1'0141 1'0130 1'0120 1'0110 1'0093 1'0086 1'0080 1'0074 1'0068	65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82	9860 9859 9855 9846 9827 9804 9775 9749 9732 9732 9739 9751 9764 9778 9778 9785	9876 9866 9855 9837 9775 9775 9735 9735 9775 9775 9775 97	5 9795 9796 9791 9777 5 9754 9726 9698 9678 9678 9670 9682 9695 9716 9728 9739 9755 9772	9802 9803 9802 9795 9782 9757 9728 9700 9670 9682 9695 9716 9728 9739	1'0009 1'0008 1'0005 1'0005 1'0003 1'0003 1'0000 1'0000 1'0000 1'0000 1'0000 1'0000
37 38 39	·9869 ·9875	'9930 '9932 '9934	9728 9739 9751	9794 9801 9809	1.0000	82 83 84	'9908 1'0003	1,000	3 9870	'9870 '9952	I,0000 I,0000
40 41 42 43 44 45 46 47 48 49	9881 9886 9889 9890 9889 9888 9887 9888 9891 9892	'9937 '9939 '9938 '9937 '9934 '9931 '9928 '9928 '9928 '9928 '9928	9760 9768 9772 9774 9773 9772 9771 9771 9771 9776 9776	'9816 '9820 '9821 '9821 '9818 '9812 '9810 '9810 '9810 '9811	1'0056 1'0053 1'0050 1'0048 1'0046 1'0044 1'0042 1'0040 1'0038	99 :			MOTE. "V" by the OM Table, OM & OM(5) ,, OM & OM(5) Table,	as f _x ,, f _x ,, h _x	fa+n 9x+n 9x+n
51 52 53 54 55 56 57 58 59 60 61 62 63 64	9897 9895 9895 9893 9890 9888 9884 9880 9875 9876 9866 9863	9930 9928 9925 9921 9916 9911 9906 9901 9887 9887 9877 9873	9785 9790 9793 9796 9797 9798 9798 9795 9791 9788 9786 9786 9786	9818 9822 9823 9824 9823 9822 9820 9819 9814 9807 9804 9800 9798	1'0034 1'0032 1'0030 1'0028 1'0026 1'0024 1'0022 1'0020 1'0018 1'0016 1'0014 1'0013	HM & H		>=<	OM(8) ,, OM & OM(8) Ta OM Table, OM(8) ,, OM & OM(8) Ta OM(5) Table, OM & OM(5) Ta	" fa " fz bles " fz " kz	jz+n jz+n kz+n jz+n kz+n
RATIOS OF ANNUITIES-DUE

 H^{M} , $H^{M(5)}$, O^{M} , $O^{M(5)}$

8/2

FOR COMPARISON OF POLICY-VALUES

 $\mathbf{3}_{2}^{1}$ PER 2 CENT.

	Нм	Ня	H ^{M(5)}	H _M (6)	Ом		ΗM	Ни	_ !	H _{M(2)}		м
Age	Ом	O _{M(5)}	Ож	O _{M(2)}	O _{M(5)}	Age	Ом	Оми	Ож	O _{M(5)}	Oı	M (5)
x	f_x	g _x	h _x	jæ	k_x	æ	f_x	g _z	h_x	jæ	k	a e
20	·97 3 2	.9965	9409	9634	1.0239	65	·9 8 65	.987		·98 0 8		009
21	9742	9962	'9422	'9634	1.0552	66	9864	'987		.9809	1	800
22	9755	.9961	'9446	9646	1,0515	67	.9861	'986		.9 809	1	006
23	9768	.9961	9475	9663	1,0108	68	9851	'985		.0801	1	005
24	.9778	'9959	.9509	.9685	1.0182	69	9834	'983		.9788	1	004
25	·978 7	.9956	9544	'9708	1.0175	70	.9809	.981		9764	1	००३
26	9795	.9921	.9576	9729	1.0120	71	·9 7 81	.978		'9736		003
27	.98oı	9946	9603	'9745	1.0148	72	9755	975		9705	1	002
28	9807	'9941	9628	.9760	1.0137	73	'9736	'973		·9685	1	100
29	.9814	.9938	.9650	9772	1.0156	74	·9732	973	1	·9676	1.0	100
30	9821	'9935	.9668	.9780	1,0119	75	'9742	'974		.9689		001
31	9829	'9934	.9685	9785	1.0106	76	'9754	'975		. 9699	•	000
32	·9837	'9934	'9694	.9789	1.0008	77	9767	.976		9721	1	000
33	9845	9934	.9705	9793	1.0000	78	'9781	'978	9731	·9731	1	000
34	·9851	'9933	.9712	'9793	1.0083	79	·9788	.978	8 '9743	'9743	1.0	000
35	.9857	.9933	.9719	'9794	1.0072	80	'9793	'979		'9757	1.0	000
36	9862	'9933	'9729	'9799	1,0041	81	.9809	.980		'9775	1.0	000
37	.9869	9934	'9740	9804	1.0066	82	'9849	'984		.9811	1.0	000
38	9875	.9936	.9750	.9810	1.0065	83	.9909	.990		·9872		000
39	·9881	.9938	9762	.9818	1.0028	84	1.0003	1,000	3 9953	*9953	1.0	000
40	·9 8 87	'9941	'9771	9824	1.0022							
41	9892	9942	9779	9829	1,0021				NOTE.			
42	9894	'9942	9782	· 9 829	1'0049		•					
43	9895	'9941	'9784	'9829	1.0046			1		\neg		
44	·9894	.9938	.9783	.9827	1.0042	$_{n}V_{x}$ by	the		$_{n}\nabla'_{x}$ by the			1
45	·9893	9935	·9781	9823	1.0045	Н м Таһ	ale.		O ^M Table,	88 fz		fe+n
46	·9893	'9933	•9780	9820	1.0041		,					7=+*
47	9894	'9932	.9781	.9819	1.0030	>> 1		1	OM(R) "	" g _z		9=+n
48	.9895	.9932	9781	9817	1.0032			ł	Ом & Ом(5) Та	hles 🖋		
49	.98 98	'9933	9784	.9819	1.0036	29 1	•	1	0-2012	bles "fz		9x+n
50	.9900	'9934	.9789	.9822	1.0034	HM(5)	n	ł	O ^M Table,	,, h _z		λ_{x+n}
51	.0 9 01	'9933	9794	.9825	1.0035			ł	OM(2)	,		
52	9902	'9932	9798	.9829	1,0031	"	0		"	» Ĵz		j=+=
53	.9900	'9929	.0801	.9829	1,0050	,,		>=<	OM & OM(5) Ta	bles " Åz	>=<	j=+=
54	·98 9 9	9925	·9804	.9831	1.0022		M(K) ///. 1.1		OM makila			1 1
55	.9896	.9920	.9802	9830	1.0052	n~ & H	M(5) Tables,	1	O™ Table,	, " Sz		y ^{2+a}
56	9892	.9916	.9806	9829	1.0054	29	**		OM(5)	,, g _z		jeta
57	.9889	.9911	.9806	9827	1.0055	l "			OV 4 OV			
58	9885	9906	9805	9825	1,0051	,,	**		Ом & Ом(5) Та	bles ,, f_x		Ĵz+n
59	' 9880	.9899	.9803	.9821	1.0019	OM Tab	le.		OM(5) Table,	,, k _s		k_{x+n}
60	9875	9892	'9798	9815	1,0018			1				
61	9871	9886	9796	.9810	1,0012	,,	•		Ош & Ош(5) Та	bles "1		k_{x+n}
62	9867	.9881	'9793	.9806	1.0014	OM(5)				,		,
63	.9866	.9877	'9793	.9802	1'0012	''			" •	,, 1	•	k_{z}
64	.9862	9876	'9794	·9804	1,0010				L			<u> </u>

O_M

$2^{\frac{1}{2}}$ per cent.

VALUES OF ANNUITIES ON TWO JOINT LIVES.

Age of Younger Life	Age of 1	Elder Life	Reference
(at side).	(At top).	(At bottom).	to page in Tables.
10–19	10–19	_	214
10-29	20–29	_	215
10-39	30– 39	_	216
10–49	40-49	_	217
10-59	50 –59	-	218
10–59	60–69		. 219
10-59	7 0–79	-	220
10-59	80-89		221
10–59	90–101	_	222
60-61	_	60–61	218
60–71		62-71	217
60-81	_	72-81	216
60–91	_	82-91	215
60–101		92–101	214

OM

VALUES OF ANNUITIES ON TWO JOINT LIVES

 $2^{\frac{1}{2}}_{\text{cent.}}^{\text{per}}$

	y y 10 11 12 13 14 15 16 17 18 10												
\boldsymbol{x}	10	11	12	13	14	15	16	17	18	19	x		
10	23.851	23.730	23.603	23'470	23'330	23.183	23.030	22.869	22.703	22.239	10		
	10	23.613	23.489	23.360	23.553	23.080 22.970	22.830 22.830	22.472	22.200	22.439	1 2		
	IOI		23 ·3 69	23,150	22.001	22.854	22.211	22.262	22.405	22.242	3		
101	801.	100		18	22.864	22.732	22.292	22.447	22.294	22'135	4		
100	139	.199	99		14	22.603	22.467	22.325	22.177	22'021	15		
99	152	'222	·255	98	97	15	22*336	22.197	22.025	21.900	6		
8	163	'241	278	•306	-97	96	16	22.063	21,022	21.774	7		
7	.168	251	292	.323	'341		95	17	21.785	21.641	8		
6	176	'265	.309	'342	.362	.384		94	18	21.202 19			
5	.182	.583	.331	.367	.389	414	°447		93	18			
94	195	. 298	.320	.390	'414	'441	.476	.208		92			
8	'204	'314	·372	414	'441	'470	.209	543	.582				
2	'212	*328	.390	436	.465	497	538	:576	617	.656	92		
90	'220	343	'410 '428	'459 '481	491	.25 .25	.269	.610	.65 5	·697 ·736	90		
	.227	'3 57	ĺ	1	.212	.221	.598						
89 8	235	37°:	445	.202	.5 3 9	.578 .603	.628	·675 ·706	.727 .761	.776 .814	89 8		
7	°241 °247	3°3	·462 ·478	·523	502	·628	·684	737	.796	852	7		
ė	253	·406	494	.261	605	652	711	.767	·829	.889	6		
5	258	416	.208	579	626	.674	.736	795	.861	924	5		
84	.263	426	.522	•596	.645	.696	.761	.823	·89 2	.959	84		
3	268	435	535	612	.664	717	.785	.850	922	· 9 92	8		
2	'272	444	547	.627	681	737	.807	875	.950	1.024	2		
1	.276	452	.55 9	642	.698	.756	1829	·899	.978	1.022	1		
80	.580	•460	.570	.655	.714	774	.849	922	1.004	1.084	80		
79	.284	•467	.280	.668	.728	.790	· 86 8	'944	1.029	1,115	79		
8	*287	. 473	· 58 9	·68o	.742	.806	·886	965	1.025	1.138	8		
7	290	'480	.298	.691	755	.821	.903	.984	1.074	1.163	7		
6	.503	.485	.606	.701	.768	.835	.9 19	1.003	1.092	1'187	6 5		
5	·295	'490	614	.711	779	·848	*935	1'020	1,112	1.500	i i		
74	297	'495	621	720	790	·860	949	1.036	1,133	1.530	74 8		
3 2	.300	.200	·627	.728 .726	.799 .809	·872 ·882	*962	1.021	1,120	1.268	2		
lî	*302	•504 •5 0 8	·633 ·639	.736 .743	817	·892	*974 *985	1.028	1,185	1,586	1		
70	305	·511	644	743	.825	,901	•996	1,000	1,106	1,305	70		
69	.307	514	649	756	·832	910	1.006	1,101	1,500	1.314	69		
8	.308	517	.653	762	.839	.918	1.012	1,115	1,551	1,331	8		
7	.309	520	.657	.767	·845	925	1.054	1,155	1.535	1.344	7		
6	.310	.523	.661	.772	.821	932	1.031	1.131	1.543	1.326	6		
5	312	525	•664	.776	.857	•938	1.039	1.139	1,525	1.364	5		
64	313	.527	•667	·78o	·861	. 944	1'045	1'147	1.561	1.377	64		
8	.313	.529	670	.784	.866	'9 49	1.025	1'154	1.540	1.382	8		
2	314	.231	673	•788	.870	954	1.024	1,191	1.277	1,396	2		
60 60	315	533	·675	791	·874 ·878	'958	1.063	1.12	1,584	1'404	1 60		
	-316	*534	·6 ₇ 8	.794		•962			<u> </u>				
	IOI	100	99	98	97	96	95	94	93	92			

OM . VALUES OF ANNUITIES ON TWO JOINT LIVES

~					3	/					<i>~</i>
x	20	21	22	23	24	25	26	27	28	29	<i>x</i>
10 1	22.348	22.161	21.888 21.888	21.468 21.691	21.262 21.488	21.350	21.063	20 [.] 907 20 [.] 842	20 [.] 677	20'441 20'382	10 1
2	22.140	21.089	21.803	21.600	21'410	21.204	20.992	20.773	20 549	20.319	2
3	22.072	21.895	21.712	21.255	21.326	21.153	20'914	20.699	20.479	20.52	3
4	21.968	21.795	21.616	21,429	21.536	21.032	20.835	20.631	20.403	20.179	4
15	21.858	21.689	21.213	21.331	21'142	20.946	20.745	20.232	20.323	20.103	15
6 7	21.743	21.277	21.405	21'226	21'041	20.850	20.622	20.447	20.237	20'020	6 7
8	21.619	21'459	21.140	21,110	20.823	20'747 20'640	20.23	20.323	20.147	19'933	8
9	21.355	21,303	21.043	20.877	20.404	20.222	50.339	20'147	19.948	19.743	9
20	21,513	21.064	20.000	20.747	20.249	20.402	20.553	20'035	19.841	19.640	20
	20	20.030	20.769		20.448		20,101	19.917	19.727	19.231	1
		21	20.623		20.311	20.142	19.543	19.793		19.417	2
	91		22	20.322	20'167	20'006	19.838	19.663	19.483	19.296	3 4
91	742	90	89	23	20.014	19.860	19.697	19.528	19.352	10.160	
90	.784	.831		88	24	19.709	19.221	19.386	19.512	18.899	25 6
89	·8 ₂ 8	· 8 78	929		87	25	26	19.085	19.072	18.754	7
8	.870	'924	'979	1.034		86	20	27	18.766	18.604	8
7	.911	.969	1.020	1,088	1.146		85		28	18.446	9
6 5	'952 '991	1.014	1.028	1,141	1,504	1,330	1:205	84		29	
	1,030	1,100	1	1.542	1	1,350	1.392	T:500	83	82	
84 3	1.064	1.141	1.113	1.542	1.317	1'390 1'449	1.26	1.233	1.679	02	
2	1,103	1,181	1,565	1'343	1.425	1.208	1.290	1.672	1.753	1.834	82
1	1.132	1,510	1.302	1.390	1.477	1.264	1.625	1'739	1.856	1.013	1
80	1,140	1,526	1.342	1.436	1.222	1.919	1.415	1.802	1.898	1.990	80
79	1,501	1,501	1.382	1.479	1.272	1.673	1.220	1,869	1.968	2.062	79
8	1,521	1.325	1'422	1.221	1.621	1.724	1.827	1,031	2.032	2.139	8 7
7 6	1,528	1.356	1'458	1,261	1.466	1.413	1.881	2.048	2°163	2.310	6
5	1,315	1.412	1.234	1.632	1.748		1.983	2,103	2.554	2.342	5
74	1.335	1'442	1.224	1.669	1.786	1.002	2.030	2.122	2.282	2'409	74
3	1.328	1.467	1.283	1.701	1.823	1.948	2.075	2.502	2'337	2.470	3
2	1.375	1,491	1.910	1.435	1.857	1.086	5,118	2.523	2,300	2.258	2
1 70	1.398	1.214	1.635	1.760	1.889	2.022	2,128	2.298	2'440	2.284	70
70	1'417	1.232	1.629	1.787	1.920	2.057	2,194	2'341	2'487	2.637	
69 8	1'434 1'450	1.224 1.24	1.481	1.815 1.836	1.948	2.089	2.233	2,381	2.232	2.686	69 8
7	1.465	1.200	1'702	1.828	1.975	2'119 2'147	2.267	2°419 2°454	2.2.575	2'734	7
В	1.479	1.602	1.739	1.879	2.053	2.141	5.358	2.488	2.622	2.820	6
5	1'492	1.650	1.756	1.898	2.042	2.198	2.356	2.219	2.687	2.859	5
64	1.204	1.634	1.772	1.912	2.062	2°22I	2.382	2.248	2.720	2.896	64
3	1.212	1.646	1.786	1.932	2.084		2.406	2.576	2.751	2.930	3
2	1.222	1.658	1.800	1'947	2'101	2.262	2.429	2.601	2.779	2.963	2
60	1.234 1.243	1 .66 9	1.812	1.962	2'117 2'132	5.5 80	2°449 2°469	2.625 2.647	2.806	3.030	60
	91	90	89	88	87	86	85	84	83	82	

Om

VALUES OF ANNUITIES ON TWO JOINT LIVES

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					1	y					
\boldsymbol{x}	30	31	32	33	34	35	36	37	38	39	\boldsymbol{x}
10	20,166	19,023	19.700	19'442	19.178			18.351		17.771	10
1 2	20.143	19.899	19.24	19'393	19'132	18 [.] 864 18 [.] 817	18.291 18.246	18.312	18.027	17.736	1 2
8	20.019	19.780	19.236	19.582	19.029	18.767	18.498	18.224		17.657	3
4	19.950	19.714	19.473	19.559	18'972	18.712	18.447	18.175	17.897	17.612	4
15 6	19'877	19.644	19'406	10.003	18'910 18'846	18 [.] 654	18.331	18066	17.847	17.565	15 6
7	197714	19'489	19'258	19.030	18.776	18.226	18.569	18.002	17.737	17.461	7
8	19.626	19.402	19.177	18.943	18.403	18.455	18.505	17.942	17.676	17.403	8
9	19.232	19.314	16.001	18.860	18.624	18.381	18.131	17.874	17.611	17:341	9
20 1	19.433	19,110	19,000	18·774 18·681	18.452	18.301 18.301	18.055	17.802	17.542	17.276	20 1
2	19.518	19.013	18.803	18.284	18.359	18.138	17.890	17.645	17'393	17.133	2
8	19.103	18.903	18.695	18.482	18.565	18.034	17.800	17.559	17.312	17.056	8
4	18.981	18.785	18.283	18.375	18.120	17.936	17.706	17.469	17.226	16.975	4
25 6	18.853 18.720	18.663 18.534	18 ·4 65 18 ·342	18.143	18.021	17.832	17.607	17.375	17.135	16.888 16.798	25 6
7	18.280	18.400	18.313	18.018	17.937	17.23	17:394	17.171	16.941	16.703	7
8	18.435	18.500	18.077	17.888	17.693	17.489	17.279	17.061	16.836	16.603	8
9	18.583	18.113	17.936	17.752	17.262	17:364	17.129	16.946	16.726	16.498	9
80	18.152	17.959	17.789	17.610		17.233	17.033	16.826	16.611	16.388	80
	80	17.800 81	17.634	17.462	17.133	17.095	16.463	16.264 16.264	16.490	16 .52 16.12	1 2
	81		32	17:145	16.977	16.803	16.619	16.429	16,530	16.024	3
81	1.997	80		88	16.814	16.645	16.468	16.584	16.003	15.891	4
80	5.081	2.171	<u>79</u>	78	84	16.481	16.310	16.135	15.946	15.752	85
79	2.163	2.59	2.353		77	85	16.142	15.807	15.633	15.602	6 7
8	2.343	2.345	2.446	2.242		76	86	87	15'466	15'452	8
7 6	2°320	2°429 2°510	2.536	2.643 2.738	2.47 2.849	2.028	75		38	15.155	9
5	2.467	2.289	2.210	2.830	2'949	3.062	3.179	74	73	39	
74	2.237	2.665	2.793	2.020	3.042	3.169	3,501	3.410		72	
8	2.604	2.738	2.873	3.006	3,139	3.540	3'399	3.226	3.650		
2	2.668	2·809 2·876	2.020	3.090	3.230	3.368	3.202 3.602	3.639 3.749	3.771 3.889	3.000 4.050	72 1
70	2.729 2.788	2.040	3.0 93	3°170 3°247	3'317 3'401	3.463 3.553	3.705	3.855	4.003	4.148	70
69	2.843	3.001	3.160	3,351	3.481	3.641	3.800	3.957	4.113	4.266	69
8	2.895	3.029	3.554	3,391	3.557	3.724	3.890	4.026	4.519	4.380	8
7	2.945	3.114	3.284	3.457	3.630	3.804	3'977	4.149	4.320	4.489	7
6 5	3.032	3°165 3°214	3.34 ₂	3.520	3.762 3.462	3.879 3.879	4.138	4'325	4.418 4.211	4.595 4.695	5
64	3.076	3.500	3.446	3.636	3.827	4,010	ľ	4.406	4'599	4.791	64
3	3.114	3.303	3 '494	3.688	3.882			4.483	4.683		3
2	3.120	3'343	3.239	3.738	3'940	4.144	4'350	4.556	4.763	4.969	2
1 60	3.184	3.380 3.412	3.281	3.784 3.828		4°201	4'412 4'471	4.625 4.689	4.838 4.909	5°051	1 60
<u> </u>								l			
	81	80	79	78	77	76	75	74	73	72	

Om

VALUES OF ANNUITIES ON TWO JOINT LIVES

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15	y 40 41 42 43 44 45 46 47 48 49											
x	40	41	42	43	44	45	46	47	48	49	<i>x</i>	
10	17.472	17.167	16.826	16.239	16.516	15.888	15.224	15.215	14.871	14.222	10	
1	17.439	17.136	16.826		16.130	15.864	15.231	15'194	14.850	14.203	1	
2	17.402	17.102	16.794	16.481	16.165	15.837	15.206	15.140	14.829	14'482	2	
3	17:364	17.065	16.760	16.449	16.131	15.808	15.479	15'145	14.802	14.460	8	
4	17.322	17.026	16.425	16.413	16.008	15.476	15.449	15.112	14.779	14'436	4	
15	17:277	16.983	16.682	16.372	16.065	15.743	15.418	15.087	14.751	14.410	15	
в	17.229	16.938	16.639	16.332	16.024	15.404		15.022	14.721	14.381	6	
7	17'178	16.888	16.293	16.501	15.983	15.668		15.031		14.321	7	
8	17.123	16.837	16.244	16.542	15.938	15.627		14.984		14.319	8	
9	17.062	16.481	16.491	16.192	15.892	15.282	15.566	14'944	14.617	14.584	9	
20	17.003	16.722	16.435	16'142	15.842	15.232	15.555	14'903	14.27	14.246	20	
1	16.937	16.660	16.376	16.086	15.489	15.485	15.174	14.858	14.236	14.304	1	
2	16.864	16.294	16.314	16.027	15'733	15.432	15.134		14'491	14.162	2	
8	16.794	16.24	16.548	15.964	15.673	15.376	15.075	14.760		14'121	3	
4	16.419	16.420	16.177	15.898	12.611	15.316	15.012	14.708	14.394	14.074	4	
25	16.634	16.373	16.104	15.828	15.244	15.254	14.956	14.652		14.022	25	
в	16.248	16.591	16.056	15.754	15.474	15.188		14.293	14.586	13'972	6	
7	16.428	16.304	15.044	15.676	15.401	15.118	14.828	14.231		13.014	7	
8	16.363	16.114	15.858	15.292	15.324	15.042	14'759	14.466		13.860	8	
9	16.563	16.019	15.768	15.209	15.543	14.968	14.687	14.398	14.103	13.499	9	
3 0	16.124	15.920	15.673	15.419	15'157	14.887	14.610	14.326	14'034	13.436	30	
1	16.048	15.815	15.274	15.324	15.067	14.803	14.230	14.520		13.668	1	
2	15.932	15.705	15.469	15.222	14.973	14.713	14.446			13.298	2	
3		15.289	15.329	15.130	14.874	14.619	14.357	14.086		13.23	3	
4	15.683	15.468	15'243	12,010	14.769	14.20	14.563	13.998		13.445	4	
85	15.220	15.339	15'121	14.894	14.659	14'416	14'164			13.361	35	
6	15.410	15.202	14.003	14.772	14.243	14.306	14.060			13.524	6	
7	15°262	15.064	14.858	14.644	14'421	14.189		13.401		13.180	7	
8	15.108	14.916	14.717	14.208	14.595	14'067	13.833	13.291		13.085	8	
9	14.942	14.760	14.267	14.366	14.126	13.937	13.410	13'474	13.530	12.978	9	
40	14.775	14.297	14.411	14.516	14'012	13.801	13.280	13.321	13.113	12.867	40	
	40	14'425	14.546	14.058	13.865	13.657	13.443	13.550		12.750	1	
	-	41	14.073	13.892	13.403	13.202	13.508	13.085		12.626	2	
	71		42	13.718	13.236	13.345		12.937	12.720.	12.495	3	
71	4.160	70	60	43	13.361	13.177	12.985	12.784	12.24	12.326	.4	
70	4.500	4.428	_69_	60	44	13.001	12.816	12.622	12'421	12'210	45	
69	4.416	4.263	4.706	68	67	45	12.639	12.453	12.228	12.022	6	
8	4.238	4.693	4.845	4.992		44	46	12.274	12.088	11.892	7	
7	4.656	4.819	4.979	5.136	5.287	66		47	11.000	11.721	8	
6	4.769	4.941	2,100	5.274	5.435	2.291	65	64	48	11.242		
5	4.878	5.057	5'234	5.408	5.577	5.742	5.902		63	49		
64	4.981	5.169	5'354	5.236	5.41	5.888	6.026	6.330		62		
8	5.080	5.526	5.469	5.659	5.846	6.058	6.306	6.378	6.246			
2	5'174	5.378	5.579	5.777	5.972	6.163	6.349	6.231	6.707	6.877	62	
1	5.263	5.474	5.683	5.889	6.093	6.292	6.487	6.677	6.863	7.042	1	
60	5'347	5.266	5.485	5.996	6.308	6.412	6.619		7.012	7.200	60	
	71	70	69	68	67	66	65	64	63	62		

Om

VALUES OF ANNUITIES ON TWO JOINT LIVES

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					1	y					
\boldsymbol{x}	50	51	52	53	54	55	56	57	58	59	\boldsymbol{x}
10	14'168	13.811	13'449	13.084	12.716	• •	11'974		11.55	10.850	10 1
2	14.121	13.794 13.776	13.434	13.020	12.689	12.321	11.021		11.502	10.842	2
3 4	14'111	13.757	13'400 13'380	1 3. 038	12.674	12,302	11.032	11.223	11.185	10'822	3 4
15	14.064	13.413	13.328	13,000	12.638	12'274	11,002	11.239	11.198	10.48	15
6 7	14'037	13.688 13.662	13.336	12.978	13.918	12.255	11.890	11.222	11'154	10.784	~ 6 7
8	14'009	13.633	13.310	12.930	12.596	12.532	11.821	11.202	11.138	10.769	8
9	13.946	13.603	13.525	12.003	12.248	-	11.829	11.466	11,101	10.436	9
20 1	13.874	13.222 13.232	13.524	12.875	12'521	12.138	11.806	11.444	11.000	10.414	20
2	13.834	13.498	13'157	12.812	12'463	12.110	11.755	11.397	11.032	10.676	2
3 4	13.748	13.459	13.150	12.778	12'430	12.080 12.048	11.22	11.341	10.088	10.630	3 4
25	13'702	13'374	13'041	12.703	12.361	12'015	11.666	11.315	10,061	10.606	25
6 7	13.601	13.328	12.028	12.620	12.323	-	11.634	11.284	10,003	10.22	6 7
8	13.244	13.55	12.952	12.226	12.242	11.043	11.263	11.518	10.872	10.223	8
9	13.490	13.172	12.855	12.239	12.198		11.225		10.839	10'492	9
30 1	13.430	13.000	12.802	12.480	12.125	11.820	11.485	1	10.804	10.460	30 1
2	13.301	12.998	12.688	12.373	12.023	11.728	11.399	11.066	10.430	10.391	2
3 4	13'157	12.863	12.22	12.316	11.943	11.625	11.323	10.977	10.648	10.314	3 4
35	13.079	12.789	12.493	12.191	11.883	11.269	11.521	10.928	10.603	10.274	35
6 7	12.996	12.412	12'421	12.153	11.819		11,138	10.878	10.222	10.183	6 7
8	12.816	12.243	12.265	11.975	11.680		11.026	10.466	10,425	10'134	8
9	12'718	12.450	12.172	11.893	11.604	11.310	11,010	10.4	10.392	10.081	9
40 1	12.203	12.352	11.082	11.807	11.523	11.234	10.864	10.263	10.334	9.965	40
2	12.386	12'137	11.880	11.919	11.342	11.008	10.784	10'494	10'200	9.901	2 3
8 4	12.7201	11.895	11.420	11.212	11'248	10.879	10.602	10,330	10'126	9.832 9.758	4
45	11,991	11.763	11.228	11.284	11.033	10.775	10.210	10.539	9.962	9.679	45
6 7	11.843	11.624	11.396	11.124	10,21	-	10.406	10'142	9 [.] 871	9.202 9.202	6 7
8	11.226	11.321	11.108	10.888	10.629	10.423	10.179	9.929	9.672	9.410	8
9 50	11.354	10.086	, ,,,,	10.40	10.210	_	10.022	9.813	9.263	9'307	9 50
ຶ	11'174 50	10.806	10.230	10'421	10.372	10.002	9°924 9°785	9.228 9.228	9°447 9°324	9.199 9.199	1
	61	51	10.438	10.520	10°054 9'883	9.880 9.880	9°639 9°485	9°420	9°194	8.962 8.832	2 3
61	7.212	60		20071	9.704	9.217	9.323	9,151	8.013	8.696	4
60	7.383	7.559				9.339	9'154	8.961	8.760	8.223	55
							8.977	8·792 8·617	8.601 8.434	8·402 8·244	8 7
						Ī		·	8.500	8.079	8
 	61	60	F2	F2		<u></u> -				7:907	8
<u> </u>	<u> </u>	. 30	52	53	54	55	56	57	58	59	

OM

VALUES OF ANNUITIES ON TWO JOINT LIVES

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m PER}$

					3	y					
\boldsymbol{x}	60	61	62	63	64	65	66	67	68	69	x
10	10.475	10,100	9.728	9.356	8.988	8.622	8.360	7.903	7.220	7.202	10
1	10.467	10.093	9.721	9.350	8.982	8.617	8.256	7.899	7.546	7.199	1
2	10'459	10.086	9.714	9'344	8.977	8.613	8.221	7.894	7.242	7°196	2
8	10,449		9.706	9'337	8.970	8.606	8.246	7.890	7.538	7.192	3
4	10.439	10.064	9.697	9.329	8.963	8.600	8.240	7.884	7.533	7.188	4
15	10.427	10.024	9.688	9.320	8.955	8.292	8.233	7.878	7.528	7.183	15
6	10.412	10.042	9.677	9.310	8.946	8.284	8.559	7.872	7.522	7.177	6
7	10,401	10.033	9.666	9.300	8.936	8.575	8.518	7.865	7.212	7.172	7
8	10.386	10.019	9.653	9.588	8.926	8.266	8.309	7.857	7.208	7.162	8
9	10.341	10.002	9.640	9.276	8.912	8.226	8.300	7.848	7.201	7.128	9
20	10.323	9.989	9.625	9.263	8.902	8.544	8.190	7.839	7.492	7.150	20
1	10.332	9.972	9.610	9.249	8.889	8.532	8.179	7.829	7.483	7'142	1
2	10.312	9.954	9.293	9.533	8.875	8.219	8.162	7.818	7.473	7.133	2
8	10.592	9.935	9.575	9.217	8.860	8.206	8.124	7.806	7.462	7.123	3
4	10.543	9.914	9.226	9,199	8.844	8.491	8.141	7.794	7.451	7.113	4
25	10.50	9.893	9.537	9.181	8.827	8.476	8.127	7.781	7.440	7.103	25
6	10.552	9.871	9.216	9.165	8.810	8.459	8.113	7.768	7'427	7.091	В
7	10.300	9.847	9°494	9'142	8.791	8.442	8.096	7.753	7'414	7.079	7
8	10'173	9.822	9.471	9'121	8.772	8.425	8.080	7.738	7.401	7.067	8
9	10'144	9.796	9'447	9.098	8.751	8.406	8.063	7.723	7.386	7.054	9
30	10'115	9.768	9.422	9.075	8.730	8.386	8.045	7.706	7'371	7°040	80
1	10.084	9.740	9.395	9.021	8.708	8.366	8.026	7.689	7:356	7.026	1
2	10.021	9.710	9.368	9.056	8.684	8.344	8.006	7.671	7:339	7.011	2
3	10.012	9.678	9.339	8.999	8.660	8.322	7.986	7.652	7.322	6.992	3
4	9.981	9.645	9.308	8.971	8.634	8.298	7.964	7.632	7:304	6.979	4
35	9.942	9.609	9.275	8.941	8.606	8.273	7'941	7.611	7.285	6.962	35
В	9'902	9.272	9.241	8.909	8.577	8.546	7.917	7.289	7.265	6.943	8
7	9.859	9.532	9.502	8.876	8.547	8.518	7.891	7.566	7'243	6.924	7
8	9.813	9.491	9.166	8.840	8.514	8.188	7.864	7.541	7.221	6.904	8
9	9.765	9.445	9.124	8.802	8.479	8.122	7.835	7.515	7.197	6.882	9
40	9.713	9'397	9.080	8.761	8.442	8.153	7.804	7.486	7.171	6.858	40
ĩ	9.657	9.346	9.033	8.718	8.402	8.086	7.771	7.456	7.143	6.833	1
2	9.297	9'291	8.982	8.671	8.360	8.042	7.735	7.424	7'114	6.806	2
3	9.534	9.535	8·g28	8.621	8.314	8.002	7.696	7.389	7.082	6.778	3
4	9.466	9.169	8.870	8.568	8.264	7.960	7.655	7.351	7.048	6.746	4
45	9'393	9.103	8.807	8.211	8.515	7'911	7.611	1	7.011	6.713	45
8	9.315	9.029	8.740	8.449	8.122	7.859	7.563	7.310	6.971	6.677	6
1 7	9'231	8.952	8.669	8.383	8.094	7.804	7.512	7.220	6.928	6.638	7
8	9.142	8.869	8.293	8.313	8.038	7.743	7.457	7.170	6.882	6.296	8
9	9:047	8.780	8.210	8.536	7.958	7.679	7.397	7.112	6.833	6.221	9
50	8.945	8.686	8.422	8.124	7.883				6.780		50
1	8.837		8.329	8.068	7.803	7.610	7°334 7°266	7°057 6°994	6.722	6.205 6.420	1
2	8.723	8.479	8.339	7.976	7.718	7.536		6.927	6.661	6.394	2
3	8.602	8.366	8.124	7.877	7.626	7°457 7°372	7.112	6.856	6.292	6.334	3
4	8.474	8.246	8.012	7.773	7.529	7.282	7.032	6.779	6.222	6.5269	4
55	8.339	8.110		1		- ·			1 1		l
8	8.197		7.893	7.662	7.426	7.187	6.850	6.628	6.449	6.300	5 5
7	8.048	7.985 7.845	7.768	7.545	7'317	7.085		6.611	6:369	6.127	7
8	7.892	7.697	7.636	7.421	7°202	6·978 6·864	6·750 6·644	6.218	6.193 6.193	6°048 5°964	8
lő	7.728	7.544	7°497 7°352	7°291	6.952	6.745	6.233	6.420 6.317	6.098	5.876	9
<u> </u>											<u>ٽ</u>
	60	61	62	63	64	65	66	67	68	69	l

OM

VALUES OF ANNUITIES ON TWO JOINT LIVES

 $2^{\frac{1}{2}}_{\bar{2}\,\text{cent.}}^{\text{per}}$

x										-	
x	70	71	72	73	74	75	76	77	78	79	\boldsymbol{x}
10	6.861	6.26	6.192	5.876	5.263	5.258	4.961	4.673	4'394	4'124	10
1	6.828	6.23	6.192	5.874	5.261	5.526	4.960	4.672	4'393	4'123	1
2	6.855	6.250	6.193	5.872	5.228	5°255	4.958	4.671	4'392	4'122	2
8	6.852	6.217	6.190	5.870	5.557	5.253	4.956	4.669	4.391	4.151	8
4	6.848	6.214	6.184	5.867	5.222	5.520	4'955	4.667	4.389	4'120	4
15	6.843	6.210	6.183	5.864	5°552	5.248	4.952	4.665	4.384	4.118	15
6	6.839	6.206	6.180	5.86o	5.249	5'245	4.950	4.663	4.382	4'117	6
7 8	6.833 6.827	6.201	6°171 6°175	5.857	5.246	5'242	4.947	4.661	4.383	4.112	8
9	6.821	6.496 6.496	6.164	5 ^{.8} 52 5 ^{.8} 48	5.542 5.538	5°239	4'944 4'941	4.658 4.655	4°381 4°378	4.111	9
20	6.814	6.483	6.160		1		i -		l		
1	6.806	6.477	6.123	5.842	5.233	5.531	4'937	4.652 4.648	4.375	4'108	20 1
2	6.798	6.469	6.142	5 ^{.8} 37 5 ^{.8} 31	5.528 5.523	5.222 2.222	4'933 4'929	4.645	4'372 4'369	4'102 4'102	2
3	6.789	6.461	6.140	5.825	5.212	5.512	4'924	4.640	4.362	4.099	3
4	6.781	6.453	6.133	5.818	2.211	2.511	4.010	4.636	4.361	4.092	4
25	6.771	6.444	6.154	2.811	5.504	5.302	4.014	4.631	4'357	4.003	25
8	6.760	6.435	6.116	5.803	5.304	2.100	4.008	4.626	4.352	4.088	8
7	6.749	6.425	6.102	5.795	5.490	2.105	4.903	4.621	4.348	4 083	7
8	6.738	6.412	6.097	5.786	5.482	5.186	4.896	4.616	4'343	4'079	8
9	6.726	6.404	6.088	5.778	5'474	5'178	4.890	4.610	4.338	4.074	9
80	6.714	6.393	6.077	5'768	5.466	5'171	4.883	4.604	4'332	4.069	80
1	6.401	6.381	6.064	5.759	5.458	5.163	4.876	4.598	4'327	4.064	1
2	6.687	6 ·369	6.026	5'749	5'448	5.122	4.869	4.201	4.351	4.029	2
8	6.673	6.326	6.044	5.738	5.439	5.146	4.861	4.284	4'315	4.024	8
4	6.658	6.342	6.033	5'727	5.429	5.138	4.853	4.577	4.308	4.048	4
85	6.643	6.328	6.019	5.412	5.419	5.158	4.845	4.269	4.305	4.045	35
6	6.626	6.313	6.002	5.403	5.408	2.118	4.836	4.261	4.592	4.036	6
7	6.609	6.594	2,331	2.691	5.396	2.108	4.827	4.553	4.584	4.029	7
8	6.200	6.581	5.976	5.677	5.384	5.097	4.817	4.244	4.279	4.022	8 9
	6.240	6.563	5.960	5.662	5°371	5.082	4.807	4.535	4.571	4.012	
40	6.249	6.544	5'943	5.647	5.357	5.073	4.795	4.222	4.262	4.007	40
1 2	6.26	6.553	5.924	5.630	5'342	5.059	4.783	4.214	4'253	3.999	1 2
3	6.203 6.476	6.301 6.124	5°904 5°883	5.613	5.326	5.042	4'771 4'757	4°503 4°491	4°243 4°232	3. 980	8
4	6.448	6.125	5.860	5.593 5.572	5°309	5.013 2.030	4.742	4.477	4.550	3.969	4
45	6'417	6.152	-		I		4.726	4.463	4'207	3.928	45
6	6'384	6.092	5 ^{.8} 35	5.220	5°270 5°248	4'995 4'976	4.709	4.448	4'193	3.946	6
7	6.349	6.063	5.480	5.26 5.200	5.222	4'955	4.690	4'431	4.148	3.933	7
8	6.311	6.038	5.748	5.472	2.500	4.933	4.669	4.413	4'162	3.918	8
9	6.270	2.991	5.412	5.442	5.175	4.908	4.647	4.393	4'145	3.903	9
50	6.556	5.021	5.679	5.409	5'143	4.881	4.624	4'372	4'126	3.886	50
1	6.148	5.908	5.639	5.373	2.111	4.852	4.298	4.349	4.102	3.867	1
2	6.127	5.861	5.252	5.332	5.076	4.821	4.570	4'324	4.083	3.848	2
8	6.072	5.811	5.22	5.594	5.039	4.788	4.240	4'297	4.059	3.826	3
4	6.013	5.757	5.203	5.50	4'999	4.752	4.204	4.568	4.033	3.803	4
55	5,020	5.400	5.450	5.505	4.956	4.413	4.473	4.536	4.002	3.778	55
6	5.883	5.638	5'394	2.121	4.010	4.671	4.435	4.503	3.974	3.721	6
7	5.810	5'572	5.334	5.096	4.860	4.626	4.394	4.166	3'942	3.421	7
8 9	5.734	5.202	5.270	5.038	4.807	4.278	4'351	4'127	3.906	3.690	8
 	5.652	5.427	5.501	4.975	4.750	4.226	4.304	4.082	3.868	3.626	
	70	71	72	73	74	75	76	77	78	79	
						20					

OM

VALUES OF ANNUITIES ON TWO JOINT LIVES

 $2^{rac{1}{2}}$ per

					3	y					
\boldsymbol{x}	80	81	82	83	84	85	86	87	88	89	x
10	3.864	3.613	3'373	3'142	2.021	2.709	2.208	2.314	2.132	1.964	10
1	3.863	3.613	3.372	3'141	2.020	2.709	2.208	2.316	2'135	1.963	1
2	3.862	3.612	3.371	3'141	2.920	2.708	2.208	2.316	2'135	1.963	2
3	3.861	3.611	3.371	3'140	2.019	2.708	2.207	2.316	2'135	1.963	8
4	3.860	3.610	3.370	3.139	2.918	2.707	2.207	2.312	2'134	1.963	4
15	3.859	3.609	3.369	3.138	2.018	2.707	2.206	2.312	2.134	1.962	15
6	3.857	3.608	3.368	3.132	2.917	2.706	2.206	2.314	2.133	1.062	8
7		3.606	3.366		2.016	2.402	2.202			1.061	7
8	3.856	3.605	3 300	3.136		2.403	2.203	2.314	2.133	1.961	8
۱۵	3.854		3.362	3.132	2.012			2.313	2'132		9
	3.852	3.603	3.363	3.134	2.014	2.403	2.203	2.312	2.131	1.060	l 1
20	3.850	3.601	3.362	3.135	2.012	2.405	2.203	3.311	2.131	1.959	20
1	3.847	3.299	3.360	3.130	2,011	2.701	2.201	2.310	5,130	1.925	1
2	3.845	3.296	3.328	3.159	2.000	2.699	2.200	2.300	2.150	1.928	2
3	3.842	3.294	3.322	3.152	2.907	2.698	2.498	2.308	2.138	1.957	8
4	3.839	3.291	3'353	3'124	2.902	2.69 6	2.497	2.302	2.122	1.926	4
25	3.835	3.288	3.320	3.155	2.903	2.6 94	2.495	2.302	2.136	1.955	25
В	3.832	3.282	3.348	3.150	2.901	2.692	2'494	2.304	2'124	1.954	6
7	3.828	3.285	3.345	3.112	2.899	2.690	2.492	2.305	2.153	1.953	7
8	3.824	3.248	3.341	3.114	2.897	2.688	2.490	2.301	2.155	1.952	8
9	3.820	3.574	3.338	3.115	2.894	2.686	2.488	2.299	2'120	1.920	9
30	3.816	3.240	3.332	3.100	2.891	2.684	2.486	2.297	2.110	1.949	30
ľĭ	3.811	3.267	3.331	3.102	2.889	2.681	2.484	5.502	2.112	1.048	1
1 2	3.806	3.263	3.338	3,103	2.886	2.679	2.482	2.534	2.112	1.046	2
3	3.802	3.228	3.324	3.099	2.883	2.676	2.479	5.531	5,113	1.944	8
4			3'320	3.092	2.880	2.674	2.477	5.589	5,113	1.943	4
	3.797	3.554			l .				I		
35	3.791	3.249	3.316	3.092	2.877	2.671	2.475	2'287	2,110	1.941	35
6	3.786	3.244	3,311	3.088	2.873	2.668	2.472	2.582	2'108	1.030	6
7	3.480	3.239	3:307	3.084	2.870	2.665	2.469	2.283	2,106	1.038	7
8 9	3.774	3.233	3.302	3.080	2.866	2.661	2'466	2.580	2.103	1,036	8 9
	3.767	3.258	3°297	3.072	2.862	2.658	2.463	2.524	2,101	1.934	
40	3.760	3.251	3,591	3.040	2.858	2 654	2.460	2.522	2.099	1.935	40
1	3.753	3.212	3.586	3.064	2.853	2.650	2.457	2.272	2.096	1,050	1
2	3.745	3.208	3.279	3.000	2.848	2.646	2.453	2.568	2.093	1.927	2
3	3.436	3.200	3'273	3.024	2.843	2.641	2.449	2.562	2.000	1'924	8
4	3.727	3.492	3.562	3.047	2.838	2.637	2.445	2,591	2.082	1,021	4
45	3.717	3.483	3.258	3.040	2.832	2.631	2.440	2.257	2.083	1.018	45
В	3.706	3.473	3'249	3.033	2.825	2.625	2.435	2.253	2.080	1.915	в
7	3.694	3.463	3'240	3.022	2.818	2.619	2'430	2'248	2.076	1.912	. 7
8	3.681	3'452	3.230	3.019	2.810	2.613	2.424	2'243	2.071	1.008	8
9	3.668	3'440	3.510	3.002	2.802	2.602	2.417	2.237	2.066	1.003	9
50	3.653	3.426	3.308	2.996	2.793	2.257	2'410	2.531	2.061	1.899	50
ľĭ	3.636	3.412	3.192	2.985	2.483	2·589	2.403	2.55	2.022	1.894	1
2	3.619	3.396	3.181	2.973	2.772	2.223	2.394	2,512	2.049	1.888	2
3	3.600	3.379	3.166	5.960	2.761	2.269	2.386	2,310	2.045	1.883	3
4	3.579	3.361	3.120	2.945	2.748	2.228	2.376	2,501	2.032	1.876	4
55			'	2.030	2.734	2.246		2,105	2.027	1.869	55
6	3.557	3'341	3'132				2.365	3.185	2.018	1.861	6
7	3.233	3.320	3.113	2.895 2.895	2.419	2.233	2.324	2.121	2.008	1.823	7
8	3.206 3.478	3.297	3.093		2.686	2.219	2°341 2°328		1,008	1.844	8
9	3 478	3.541	3.046	2·875 2·854	2.667	2.203 2.487	-	2.170	1'987	1.834	9
		3.544	3.046				2.313	2'146			- - -
	80	81	82	83	84	85	86	87	88	89	

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VALUES OF ANNUITIES ON TWO JOINT LIVES

 $2^{1\over 2}$ per cent.

						y							
\boldsymbol{x}	90	91	92	93	94	95	96	97	98	99	100	101	\boldsymbol{x}
10	1.800	1.648	1.203	1.369	1'240	1'125	1.013	920	·828	.704	·552	*324	10
1	1.800	1.648	1.202	1.369	1'240	1.152	1.015	.010	·828	704	552	324	ĩ
2	1.800	1.648		1.369	1'240	1.152	1'012	.010	·828	.704	.225	324	2
3	1.800	1.648	1.203	1.369	1.530	1,152	1,011	,919	.828	704	552	324	3
4	1.499	1.647	1.205	1.369	1.539	1,152	1.011	919	·828	704			4
						-					552	·324	i
15	1.799	1.647	1.201	1'369	1.539	1,152	1.011	.010	·828	704	552	`324	15
6	1.799	1.647	1.201	1.368	1,530	1,152		.919	· 82 8	704	`552	`324	6
7	1.798	1.646	1.201	1.368	1.539	1'124	1.011	.919	.828	'704	.221	324	7
8	1.798		1,200	1.368	1.538	1.154	1.011	.919	.828	.704	.221	324	8
9	1.497	1.646	1,200	1.364	1.538	1.154	1,011	.919	·828	704	.221	324	9
20	1.497	1.642	1,200	1.364	1.538	1'124	1,010	918	.827	.703	.221	324	20
1	1.796	1.642	1'499	1.364	1.538	1.153	1,010	918	827	.703	.221	324	1
2	1.492	1.644	1.499	1.366	1'237	1.153	1,010	918	827	.703	.221	324	2
3	1.792	1.643	1'498	1.366	1.532	1.153	1,010	918	827	703	.221	324	3
4	1.794	1.643	1.498	1.362	1.536	1.155	1.000	917	827	703	.221	324	4
25	1.493	1.642	1'497	1.362	1.536	1,155	1.000	917	·826	703	.221	324	25
в	1.792	1.641	1.496	1.364	1.532	1,151	1.008	917	826	702		324	8
7	1.491	1.640	1.495	1,363	1,532	1,151	1.008	916	826	702	.220 .221	324	7
8	1.790	1.639	1.492	1,363	1.534	1.150	1,008	.916	826	702		323	8
9	1.789	1.638	1.494	1.365	1.533	1,150	1.002	.916	825	702	.220		9
	1.488						· ' !	•		-	·55°	·323	
30		1.637	1.493	1,361	1.533	1,110	1.002	.012	825	701	550	·323	30
1	1.786	1.636	1'492	1.360	1.535	1,110	1.006	915	825	.401	.220	.323	1
2	1.782	1.635	1.491	1.360	1,531	1.118	1,000	914	824	.701	°550	323	2
3	1.784	1.634	1'490	1.320	1.531	1.112	1.002	'914	824	.401	549	323	8
4	1.482	1.633	1.489	1.328	1.530	1,114	1.002	·913	.823	.400	·5 4 9	·323	4
35	1.481	1.631	1.488	1.324	1,550	1.119	1.004	.913	.823	.700	549	323	35
6	1.445	1.630	1.487	1.326	1.558	1.112	1.003	912	.823	.700	549	323	6
7	1.778	1.629	1,486	1.322	1.552	1.112	1.003	912	.822	.699	. 549	323	7
8	1.776	1.627	1.484	1.324	1.556	1'114	1.005	.911	.822	.69 9	.548	.322	8
9	1.774	1.659	1.483	1.323	1.550	1,113	1,001	.911	·821	·698	548	.322	9
40	1.773	1.624	1'482	1.352	1'224	1.115	1,001	910	.821	.698	.548	.322	40
1	1.441	1.622	1.480	1.320	1.553	1,111	1,000	.909	·820	698	547	322	1
2	1.768	1.651	1.479	1.349	1'222	1,110	'999	.909	.819	.697	547	322	2
3	1.766	1.619	1.477	1.347	I'22I	1,100	998	908	.819	697	547	322	8
4	1.764	1.616	1.475	1.346	1,550	1.108	997	907	·818	696	546	322	4
45	1.461	1.614	1'473	1'344	1.518	1'107	996	906	.817	696	.546	321	45
6	1.758	1.613	1'471	1.345	1.512	1,102	995	905	816	695		321	6
7	1.755	1.609	1.469	1,340	1.512	1'104	993	903	·816	694	546	321	7
8	1.752	1.606	1.466	1.338	1.513	1'102	993	903	815	694	545	-	8
9	1.748	1.603	1.463	1.336				902	814	693	`545 `544	.321	9
								-	_ 1				
50	1.744	1.299	1'460		1.500	1,000	.989	.000	.812	692	544	.320	50
1	1.740		1'457	1,330		1.002	'987	·8 9 9	.811	.691	543	320	1
2 3	1.432	1.292	1.454	1.327		1.004	985	·897	.810	.690	542	320	2
4	1'724	1.285	1.450	1.324	1.501	1.085	983	895	.808	.689	542	319	3
1			1.446	1.320		1,080	.981	.893	.807	·688	.241	.319	4
55	1.718	1.222	1'441	1.314	1,164	1.086	'979	.891	.802	.686	.240	.319	5 5
6	1.712	1.221	1'436	1,315		1.083	.976	.889	.803	.685	539	.318	6
7	1.404	1.262	1,431	1.308		1.080	'973	.887	.801	683	.238	.318	7
8 9	1.697 1.688	1.228	1'425	1.305	1,185	1.076	'970	.884	799	682	537	'317	8
	1 000	1.221	1'418	1.592	1.148	1.025	•966	.881	. 796	·68o	<u>'535</u>	.316	9
	90	91	92	93	94	95	96	97	98	99	100	IOI	

$\mathbf{0}^{\mathtt{M}}$

3 PER CENT.

VALUES OF ANNUITIES ON TWO JOINT LIVES.

Age of	Age of	Elder Life	Reference to		
Younger Life (at side).	(At top).	(At bottom).	page in Tables.		
10–19	10–19	_	224		
10–29	20–29	_	225		
10-39	30–39	_	226		
10–49	40–49	_	227		
10-59	50-59	_	228		
10–59	60–69	_	229		
10–59	70-79	_	230		
10–59	80-89	_	231		
10-59	90–101	_	232		
60–61		60-61	228		
60-71		62-71	227		
60–81	_	72-81	226		
60–91	_	82-91	225		
60-101		92-101	224		

OM

VALUES OF ANNUITIES ON TWO JOINT LIVES

$x \mid$	10	y												
	10	II	12	13	14	15	16	17	18	19	\boldsymbol{x}			
10	21'782	21.684	21.280	21'471	21.326	21'235	21'109	20'976	20.837	20.693	10			
	10	21.288	21'487	21.380		21'149	21.036			20.018	1			
l		11	21.388	21.584	21'174	21.059		20.811	20.678	20.239	2			
	IOI		12	21.183	21 076	20'963	20.842	20.450	20.200	20'454	3			
101	.108	100		18	20.972	20.863	20.246	20.622	20.497	20.364	4			
100	.139	.198	99_	98	14	20.754	20'642	20.23	20.399	20.568	15			
99	151	*221	·253	90	97	15	20.232	20.416	20.596	20.168	6			
8	162	.239	277	.304			16	20.304	20.186	30.063	7			
7	167	250	290	321	339	96		17	20.071	19.950	8			
6	175	.263	307	.340	359	.382	95	94	18	19.832	ı " i			
5	.189	'281	329	365	387	412	444		93	19				
94	194	.296	.348	.387	'411	438	·473	*505	73	92				
8	203	312	369	412	438	467	505	540	.578					
2	211	327	388	433	. 462	494	534	.572	.613	.621	92			
l ī l	'219	341	407	456	·488	.231	•565	.605	·650	692	1			
90	.226	355	425	478	.211	547	594	.637	•685	730	90			
89	·233	•368	443	. 499	535	·574	.623	.670	721	770	89			
8	240	380	459	519	.558	599	.651	701	755	.808	8			
7	1246	.392	475	*538	·58o	623	.679	.431	· 7 89	*845	7			
6	252	403	'491	557	.601	647	.705	.761	.822	.881	6			
5	257	414	.205	575	.621	.669	.431	.789	.854	.916	5			
84	.262	424	.219	.592	.640	. 691	.7 55	.816	·884	.921	84			
3	.267	433	.532	.608	.659	712	.778	·843	914	983	8			
2	'27 I	'441	544	.623	.676	.431	.801	·868	'942	1.012	2			
1	.275	450	555	.637	·69 3	.750	.822	·892	.969	1.042	1			
80	'279	457	.266	·650	.708	.767	.842	'914	'995	1.074	80			
79	.282	·464	.576	· 6 63	723	.784	.861	·936	1.019	1,103	79			
8	*285	471	.585	.675	737	.800	·879	. 956	1'042	1.158	8			
7	·288	477	594	.686	.750	.814	. 896	'975	1,064	1,125	7			
6	*291	482	.602	·696	.762	·828	912	. 993	1.082	1.146	6			
5	'294	'487	.609	.406	773	.841	927	1,010	1'104	1,198	5			
74	•296	492	.619.	714	.783	.853	'940	1.056	1,155	1,518	74			
8	1298	497	623	723	'793	·86 ₄	953	1,041	1.139	1,538	8			
2	.300	.201	629	.730	·802	875	.965	1.022	1,122	1.526	2			
1	.302	*505	.634	.738	811	885	'977	1.068	1'170	1'273	1			
70	*304	.208	.639	[.] 744	.818	.894	.987	1.080	1.184	1,589	70			
69	305	.211	644	750	.826	902	'997	1,001	1'197	1.304	69			
8	.306	'514	.648	.756	.832	.010	1,006	1'102	1,500	1.314	8			
7	.308	517	652	'761	839	.917	1.014	1,111	1.550	1.330	7 6			
6	.309	519	.656	.766	844	924	1.033	1'120		1'342	5			
5	.310	.233	•660	.770	·850	930	1.029	1'129	1'240	1.323				
64	.311	524	.663	774	854	936	1.036	1.136	1.549	1.363	64			
8	'312	.526	.666	778	·859	*941		1'143	1.527	1'373	3 2			
2	'313	528	·668	.782	·863	946		1,120	1.522	1,381	1			
1 60	'314	.529	·671 ·673	.785 .788	·867 ·870	950	1.023	1,120	1.278	1,394	60			
80	*314	.231	0/3			'954				- 391				
	IOI	100	99	98	97	96	95	94	93	92				

Om

VALUES OF ANNUITIES ON TWO JOINT LIVES

					g	/					
x	20	21	22	23	24	25	26	27	28	29	\boldsymbol{x}
10	20'543	20'387	20.55	20.028	19.884	19.706	19.521	19.331	19.136	18.937	10
1	20'471	20'317	20'158	19.993		19.646	19.464	19'277	19.084	18.886	1
2	20.393	20.243	20.086	19.924	19.756	19.282	19.402	19.518	19.027	18.832	2
8	20.315	20'164	20.010	19.850	19.685	19.213	19.337	19,122	18.968	18.774	8
4	20.332	20.029	19.928	19.772	19.609	19.441	19.267	19.088	18.903	18.712	4
15	20.133	19.990	19.842	19.688		19.364	19,193	19.016	18.834	18.646	15
6	20.032	19.896		19.600		19.581	19.113	18.940	18.760	18.272	6
7	19.932	19.796	19.654	19.207	ا ۾ ا	19.194	19.029	18.858	18.683	18.201	7
8	19.823	19.691	19.552	19.408		19,105	18.940	18.773	18.600	18.421	8
9	19.708	19.279	19'444	19.303	19.157	19'004	18.846	18.682	18.213	18.334	9
20	19.288	19.463	19.331	19.193	19.020	18.901	18.746	18.286	18.420	18.247	20
	20	19.340	10,515	19.078		18.793	18.641	18.485	18.322	18.123	1
		21	19.087	18.957	18.821	18.679	18.532	18.379	18.220	18.024	2
1	91	-00	22	18.830	18.698	18.260 18.435	18.416	18.1264 18.120	18.111	17.951	3 4
91	736	90	89	23	18·569 24		18.295	_	17.998	17.841	1
90	.778	.824		88		18.302	18.169	18.027	17.880	17.727	25
89	.821	·87 I	.921		87	25	18.037	17.899	17.756	17.606	6 7
8	.863	.916	'971	1'024		86	26	17.766	17.491	17.481	8
7	.903	.961	1.050	1.048	1.132		85	27	28	17.350	9
6	944	1,002	1.068	1,130	1,193	1.524		84	20	29	
5	.983	1.048	1,112	1,185	1,540	1,312	1.381		83		
84	1'021	1.000	1,191	1.533	1.304	1.372	1.446	1.216		82	
8	1.024	1,131	1,500	1,585	1.328	1.434	1.210	1.282	1.660		
2	1.093	1.140	1.520	1,330	1.410	1,495	1.245	1.623	1.433	1.813	82
1	1.152	1.508	1,501	1.376	1.461	1.244	1.633	1.419	1.805	1.889	1
80	1.129	1'244	1,335	1'421	1.210	1.601	1.692	1'784	1.875	1.965	80
79	1,100	1.548	1.340	1.463	1.228	1.624	1.420	1'846	1'943	2.039	79
8	1,510	1.311	1.407	1.204	1.603	1'704	1.805	1.907	2.009	2.111	8
7	1.247	1.343	1'442	1,244	1.647	1.752	1.858	1.962	2.073	3.181	7
6	1.273	1.372	1.476	1.281	1.728	1.42 1.842	1,008	2.022	2'135	2'248	6 5
5	1.298	1'400	1.207	i	1 *	ľ	1.928	•	2'194	2.313	
74	1.322	1.427	1.237	1.620	1.765	1.884	2.004	2'127	2.221	2.375	74
8	1.344	1.452	1.262	1'682	1.832	1.061	2'049	2.176	2.302	2.435	3
2 1	1.365	1'475 1'497	1.202	1'711	1.866	1.997	2.001 5.130	2.262	2°357 2°406	2,492	2 1
70	1,402	1.218	1.640	1.766	1.896	2.030	2.168	2.308	2.452	2.20	70
69	1'419	1.232	1.665	1.401	1.034	2'062	2,503	2.348	2'496	2.646	69
8	1.435	1.222	1.685	1.814	1.920	2.001	2.536	2.385	2.237	2.692	8
7	1'449	1.223	1.401	1.836	1.975	2,110	2.562	2.420	2.24	2.736	7
ė	1'463	1.288	1.719	1.826	1.997		2.296	2.452	2.613	2.776	6
5	1.476	1.603	1.736	1.875	2.019	2.169	2.323	2.483	2.647	2.815	5
64	1.487	1.615	1.421	1.892	2.039		2.349	2'511	2.679	2.850	64
3	1.498	1.658	1.765	1.008		5,515	2.372	2.238	2.709	2.884	3
2	1.208	1.639	1.778	1.923	2.074	2.531	2.394	2.263	2.737	2'915	2
1	1.218	1.620	1.491	1.937	2.090		2.412	2.286	2.763	2.944	1
60	1.256	1.660	1.803	1.920	2'105	2.566	2'434	2.607	2.787	2.972	60
	91	90	89	88	87	86	85	84	83	82	

Om

VALUES OF ANNUITIES ON TWO JOINT LIVES

					3	y					
$oxed{x}$	30	31	32	33	34	35	36	37	38	39	x
10	18.731	18.520	18.303	18.082	17.855	17.623		17.141		16.632	10
1	18.683	18.474	18.360	18.040	17.815	17.584		17.106		16.604	1
3	18.631	18.425	18.165	17.995	17.772	17.543		17.069		16.221	2 3
4	18.216	18.312	18.108	17.947	17.726	17.499 17.452	17.267	16.086		16.232	4
15	18.453	18.524	18.040	17.839	17.623	17.401		16.040		16.454	15
8	18.382	18.189	17.987	17.780		17.347	17.122	16.890		16.400	6
7	18.313	18.150		17.716		17.289		16.838		16.361	7
8	18.536	18.046		17.649	17.441	17.227	17.007	16.782	16.220	16.310	8
9	18.126	17.969	17.776	17.577	17'373	17.162	16'945	16.455	16.492	16.526	9
20	18.070	17.887	17.697	17.201	17:300	17.092		16.628		16.198	20
1	17.979	17.799		17.421	17.223	17.018				16.134	1
2	17.884	17.708		17.336		16.941		16.20		16.072	2
3 4	17.783	17.611			17.056	16.859	16.624	16.444 16.365		16.003	3 4
	17.678	17.209	17'334	17.123	16.841	16.472 16.681	16.221	16.585	16.12	15.931	
25 6	17.568	17.403	17.231	17.054	16.411	16.282	16.485 16.393	16.193	16.072	15.855	25 6
7	17:330	17.174	17.133		16.666	16.485		16,101		15.442	7
8	17'204	17.021	16.893	16.728	16.557	16.379	16.102	16.004		15.603	8
9	17.071	16.923	16.769	16.608	16.443	16.569	16.089	15.903		15.209	9
30	16.933	16.400	16.640	16.485	16.322	16.124	15'979	15.796	15.607	15'411	30
	80	16.621	16.206		16.192	16.033	15.862	15.685		15.308	1
		81	16.362	16.518	16.066	15.907		15.268		15.501	2
	81 		82	16.022	15.929	15.774	15.613	15.445		15*088	8
81	1.972	<u></u>	70	88	15.786	15.636	15.480	15.317	1	14.970	4
80	2.024	2'142	<u>79</u>	78	34	15.491	15'341	15.185	15.018	14.845	85
79	2'134	2.538	2.321		77	85	15.194	14.894	14.882	14.715	6 7
8	2.515	2,315	2'411	2.208		76	36	37	14.291	14'578	8
7	2.588	2.394	2.200	2.603	2.702		75		38	14.584	9
6	2.361	2.474	2.286	2.696	2.805	2.011		74		89	
5	2.432	2.221	2.669	2.786	2.902	3.012	3.156		73		
74	2.200 3.200	2.626 2.697	2.420 2.828	2.874	2'996 3'087	3.116	3.235	3.350	3.283	72	
3 2	2.628	2.765	2.903	3.039 3.039	3.172	3°214	3'340 3'442	3°463 3°573	3.701	3.826	72
ı	2.688	2.831	2.974	3.112	3,500	3'401	3.241	3.679	3.814	3.947	1
70	2'745	2.893	3.043	3.195	3.341	3.490	3.637	3.782	3.925	4.065	70
69	2.799	2'953	3.108	3.263	3.419	3.574	3.728	3.881	4'031	4.179	69
8	2.849	3.009	3.170	3,331	3.493	3.655	3.816	3.976	4'133	4.589	8
7	2.898	3.065	3.558	3.396	3.264	3'732	3.000	4.067	4.535	4.392	7
6	2.043	3,115	3.584	3'457	3.631	3.802	3.980	4'153	4'325	4.496	6
5	2.986	3.160	3.336	3.212	3.695	3.875	4.026	1	4.412	4.593	5
64	3.036	3.504	3.386	3.269	3.754	3'941	4'128	4'314	4.200	4.685	64
3 2	3.008 3.003	3°246	3'432 3'475	3.668	3.811 3.864	4.003 4.001	4.196 4.196		4.281 4.628	4°773 4°856	3 2
î	3.131	3.321	3.216	3.413	3.914		4.320	4.525	4.730	4.935	1
60	3.191	3.355	3.554	3.755	3.960	4.168	4.377	4.282	4.798	2.009	60
	81	80	79	78	77	76	75	74	73`	72	

OM

VALUES OF ANNUITIES ON TWO JOINT LIVES

					3	y					
x	40	41	42	43	44	45	46	47	48	49	x
10	16.374	16.106	15.833	15.223	15'268	14.976	14.679	14'376	14.068	13.754	10
1	16.344	16.078	15.806			14.954			14.020	13.737	1
2	16.312	16.048	15.778	15.201	15.519	14.930	14.636	14.332	14.030	13.719	2
8	16.529	16.019	15'747	15.472	15'192	14'904	14.612	14.313	14.008	13.699	8
4	16.545	15.981	15.714	15.441	15.165	14.876	14.282	14.588	13.982	13.677	4
15	16.303	15'943	15.678	15.407	15.130	14.846	14.22	14.561	13.960	13.653	15
6	16.120	15.903	15.640	15.371	15.092	14.814	14.256	14.535		13.628	6
7	16.114	15.860	15.299	15.333	15.029	14.779	14'493	14.301	13.003	13.600	7
8	16.062	15.814	15.222		12,010	14.742	14.458	14'168		13.241	8
9	16.014	15.764	15.209	15.546	14.978	14'702	14.420	14.135	13.839	13.239	9
20	15.958	15.712	15.458	15.199	14.932	14.659	14.380	14'094	13.803	13.202	20
1	15.000	15.626	15.406	15.149	14.885	14.614	14.337	14.024	13.765	13.469	1
2	15.838	15°597	15.320		14.834	14.266	14.595	14.011		13.431	2
3	15.773	15.232	15.500		14.781	14.216	14.544	13.066		13,391	8
4	15.404	15.469	15.558	14.980	14.724	14.462		13.918		13.348	4
25	15.631	15.400	15.165		14.665	14.406			13.288	13.303	25
6	15.554	15.327	15.093		14.605	44.347		13.814		13.526	6
7	15.474	15.520	15.030	-	14.232	14.584				13.506	7
8	15.389	15.170	14.943		14'467	14.519	13.962	13.700		13.123	8
9	15.300	15.082	14.862		14.394	14'149		1	13.371	13.098	9
30	15.502	14.996	14.777		14.318	14.077	13.828		13.310	13.040	30
1	12,110		14.688	14.467	14.537	14.000				12.979	1
2	15.006		14.292			13.030				12.912	2
3	14.898	14.401				13.832	13.299			12.847	8
4	14.785	14.293	14.393	1	•	13.746	13.212	13.276	13.030	12.776	4
35	14.666	14.479	14'283			13.622		13.191	1 2:-	12.400	35
6	14.241	14.329	14.169			13,223		13,105		12.621	8
7	14.409		14.048			13'448				12.236	7
8 9	14.271	14.100	13'921			13.337	13.150	12.008		12.447	8
	14'126		13.787	1	i	13'220	13.012	12.802	•	12.352	9
40	13.974	13.814	13.646		13.588	13.097	12.898		1 20	12.221	40
	40	13.660	13.498		13.125	12'967				12'145	1
	71	41	13'343	13.180	13.009	12.685	12.642	12'447	12.243	12.031	2 3
1		70	42	43	12.690	12.232	12.357	12'315	11'984	11.482	4
71	4.076		69		44			1			
70	4.505	4.336	<u> </u>	68		12.372	12.504	12.028	11.843	11.621	45
69	4.324	4.462	4.603		67	45	12'042	11.843	11.239	11,200	6 7
8	4.441	4.291	4'737	4.879		66	46	47	11.375	11,303	8
7	4.222	4.712	4.866	5.016	2.165		65		48	11,038	9
6	4.664	4.829		5.149	5.303	5.452		64		49	
5	4.768	4'941	2,111	5'277	5'439		5.750		63		
64	4.868	5.049	5.226	5.400	5.240		5.897	6.024	- Cont	62	
8	4.963	5.121	5.336	5.218	5.696		6.040	6.304	6.364	6.6	ا ۵۵
2	5.023	5.248	5'441	5.631	5.817	5.999	6:177		6.217 6.665	6.679 6.835	62
60	5.139 2.139	5'341 5'429	5.241 2.636	5.438 5.840	5°932 6°042	6.155 9.155	6.308 6.433	6.489 6.623	6.802	6.982	60
1-	3 419	3 449			ļ			<u> </u>			
	71	70	69	68	67	66	65	64	63	62	

VALUES OF ANNUITIES ON TWO JOINT LIVES

					3	y					00
\boldsymbol{x}	50	51	52	53	54	55	56	57	58	59	x
10	13'436	13,113	12.785	12.454	13,110	11.480	11.439	11.006	10.420	10,404	10
1	13.420	13.008	12.771	12'441		11.769		11.086	10'742	10.396	1 2
2 3	13'403	13.085	12.757	12.427	12.080	11.757	11.418	11.026	10'732	10.384	3
4	13.384	13.064	12.740	12,415	12.004	11'744	11.406	11.022	10'722	10.367	4
1					· .			_	10.608		. 1
15 6	13'341	13.024	12.403	12.377	12'047	11.41	11.378	11.039	10.684	10.322	15 6
7	13.317	13.002	12.659	12.336	15,000	11.678	11.362	11.008	10.669	10.343	7
8	13.563	12.921	12.634	15.313	11.088	11.628	11.35	10,001	10.623	10.314	8
9	13.534	12.924	12.608	15.588	11.964	11.632	11.306	10.972	10.636	10.508	9
20	13.505	12.894	12.280	12.565	11.040	11.614	11.584	10'952	10.018	10.581	20
1	13.168	12.861	12.220	12.534	11.014	11.289		10.031	10.208	10.563	1
2	13.135	12.828	15.210	12.502	11.886	11.264		10.008		10.543	2
8	13.004	12.792	12.485	12.143	11.856	11.236	11.511	10.884	10.224	10,555	3
4	13.024	12.754	12.449	12.140	11.825	11.206	11'184	10.829	10.230	10'200	4
25	13.013	12.715	12.412	12'104		11.476	11'155	10.832	10.202	10'177	25
6	12.062	12.672	12.373	12.068		11'443	11.15	10.803	10.479	10'152	8
7	12.020	12.628	15.331	12.038	11.721	11'409	11,003	10.774	10.451	10.150	7
8	12.871	12.282	12.287	11.987		11.373	11.060	10.742	10.422	10,100	8
9	12.819	12.23	12'242	11.944	11.643	11,332	11.022	10'710	10.392	10.011	9
30	12.764	12'482	12'194	11.899	11.600	11.506	10.088	10.675	10,360	10'041	30
1	12.707	12.428	12'143	11.852	11.226	11'254	10.949	10.639	10.326	10.010	1
2	12.646	12.371	12.089	11.803	11.209	11.511	10.908	10.601	10.501	9.977	2
3	12.283	12.311	12.033	11.749	11.459	11'165	10.862	10.261	10'253	9'943	3
4	12.212	12.548	11.973	11.693	11'407	11.119	10.850	10.219	10'214	9.906	4
35	12'444	12.181	11.011	11.634	11.352	11.064	10.772	10.474	10'173	9.868	35
6	12'369	12.110	11.844	11.22	11.504	11,010		10.427	10.158	9.827	6
7	12.580	12'035	11.774	11.206	11.535	10'952	10.667	10.377	10.085	9.784	7
8	12.502	11.955	11.699	11.436		10.891	10.600	10.353	10.033	9.738	8
9	12.112	11.871	11.619	11.361	11.096	10.852	10.248	10.566	9.980	9.688	9
40	12.030	11.481	11.232	11.585	11.022	10.755	10.483	10.500	9.923	9.636	40
1	11.018	11.686		11'197		10.681	10'414	10'141	9.863	9.280	1
2	11.812	11.284	11.349	11'107		10.603	10.340	10.072	9.798	9.20	2
3 4	11.698	11.477	11'248	11.012		10.214	10'261	9.998	9.730	9.457	3 4
	11.278	11.362	11'140	10.010	•	10.427	10.146	9.919	9.656	9.388	
45	11.450	11.343	11.022	10,801		10,331	10.086	9.834	9.577	9.315	45
6 7	11.316	11'114	10.004	10.686		10.55	6.660	9.745	9.493	9.236	6 7
. 8	11.023	10.978	10.775	10.262	10'346	10.131	9.888 9.780	9.649	9°404 9°308	9.063 9.125	8
. 8	10.862	10.682	10.639	10,432	10.0324	9.883	9.664	9°547 9°438	9.300	8.968	9
50	10.400	10.26								8.866	50
50	50	10.360	10.342	10.122	9.812 9.815	9.754 9.618	9°542 9°413	9°323	9 .0 98 8.983	8.758	1
		51	10.030	9.845	9.663	9.474	9.277	9.073	8.862	8.644	2
,	61			9.679	9.204	9.322	9.133	8.937	8.733	8.23	3
61	7.000	60			9.338	9'164	8.982	8.794	8.598	8.395	4
60	7.128	7'325				8.998	8.824	8.643	8.455	8.561	55
	, -3	1 3-3				,,,,	8.658	8.486	8.306	8.110	6
							1	8.321	8.149	7'971	7
	1.0	7						(37	7.986	7.815	8
			1							7.653	9
	61	бо	52	53	54	55	56	57	58	59	

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VALUES OF ANNUITIES ON TWO JOINT LIVES

					y	1					
x	60	61	62	63	64	65	66	67	68	69	x
10	10.026	9.709	9.361	9.012	8.670	8.327	7:987	7.650	7'317	6.988	10
1	10.049	9.702	9.356	0.010	8.665	8.323	7.983	7.647	7'314	6.982	1
2	10'041	9.695	9.349	9.004	8.660	8.318	7'979	7.643	7.310	6.985	2
8	10'032	9.687	9.341	8.997	8.654	8.312	7.974	7.638	7.306	6.978	8
4	10,053	9.678	9.333	8.989	8.647	8.306	7.968	7.633	7.301	6.974	4
15	10.013	9.668	9.324	8.981	8.639	8.299	7.962	7.627	7.296	6.969	15
6	10,000	9.657	9.314	8.972	8.631	8.393	7'955	7.621	7.291	6.964	6
7	9.988	9.646	9:304	8.962	8.622	8.583	7'947	7.614	7.285	6.959	7
8	9'974	9.633	9.593	8.952	8.613	8.275	7'939	7.607	7.278	6.923	8
9	9.959	9.619	9'279	8.940	8.601	8.562	7.930	7.299	7.270	6.946	9
20	9'943	9.604	9.266	8.927	8.290	8.254	7.921	7.290	7.262	6.939	20
1	9.926	9.289	9.251	8.914	8.578	8.243	7.910	7.280	7.253	6.931	1
2	9.908	9.22	9.235	8.899	8.264	8.531	7.899	7.240	7.244	6.922	2
8	9.888	9.554	9.519	8.884	8.220	8.318	7.887	7.559	7°234	6.913	3
4	9.868	9.232	9.501	8.868	8.232	8.304	7.874	7.547	7.554	6.903	4
25	9.847	9.212	9.183	8.851	8.20	8.189	7.861	7'535	7.212	6.893	25
6	9.824	9'494	9'164	8.833	8.203	8.174	7.847	7.522	7.201	6.882	6
7	9.800	9'472	9'143	8.814	8.485	8.128	7.832	7.209	7:188	6.871	7
8	9.775	9.448	9.121	8.794	8.467	8.141	7.817	7'495	7'175	6.859	8
9	9'748	9'424	9.099	8.773	8.448	8.153	7.800	7 480	7.162	6.847	9
30	9.721	9.398	9.075	8.751	8.428	8.102	7.783	7.464	7'147	6.834	30
1	9.692	9.372	9.020	8.729	8.407	8.086	7.766	7.448	7'133	6.820	1
2	9.661	9.343	9.024	8.704	8.385	8.062	7.747	7'431	7'117	6.806	2
8	9.629	9'314	8.997	8.679	8.361	8.044	7.728	7.413	7.100	6.791	8
4	9.296	9.283	8.968	8.653	8.337	8.033	7.707	7.394	7.083	6.776	4
35	9.260	9.250	8.938	8.625	8.311	7.998	7.686	7:375	7.065	6.759	35
6	9.522	9.215	8.906	8.292	8.284	7.973	7.663	7.354	7.046	6.742	6
7	9'482	9.178	8.872	8.564	8.255	7.946	7.638	7'332	7.026	6.723	7
8	9.440	9.138	8.835	8.530	8.225	7.918	7.613	7:308	7.005	6.704	8
9	9'394	9.096	8.796	8.495	8.192	7.888	7.282	7.283	6.983	6.683	9
40	9.345	9.052	8.755	8.457	8.157	7.856	7.556	7.256	6.958	6.661	40
1	9'294	9.004	8.711	8.416	8.119	7.822	7.524	7.227	6.931	6.637	1
2	9.238	8.952	8.663	8.372	8.079	7.785	7'491	7.197	6.903	6.613	2
8	9.179	8.897	8.613	8.325	8.036	7.746	7.455	7.163	6.873	6.284	3
4	9.112	8.838	8.228	8.275	7.990	7.703	7.416	7.128	6.841	6.222	4
45	9.047	8.775	8.200	8.221	7'940	7.657	7:374	7.090	6.806	6.23	45
6	8.974	8.707	8.437	8.163	7.887	7.608	7.329	7.048	6.768	6.488	6
7	8.896	8.635	8.370	8.101	7.829	7.555	7.280	7.004	6.727	6.452	7
8	8.813	8.557	8.298	8.034	7.768	7.499	7.228	6.956	6.684	6.413	8
9	8.724	8.474	8.551	7.963	7.702	7.438	7.172	6.902	6.637	6.369	9
50	8.629		8.138	7.886	7.631	7.373	7.112	6.849	6.286	6.322	50
1	8.528		8.020	7.805	7.555	7.303	7.047	6.790	6.232	6.273	1
2	8.421	8.191	7.957	7.718	7.475	7.228	6.978	6.727	6.473	6.510	2
3	8.307	8.082	7.857	7.625	7.388	7.148	6.902	6.658	6.411	6.165	8
4	8.184	7.972	7.752	7.526	7.297	7.063	6.826	6.286	6.344	6.100	4
55	8.060		7.640	7.422	7.199	6.972	6.742	6.208	6.272	6.032	55
6	7'926	7.727	7.522	7.311	7.096	6.876	6.653	6.426	6.196	5.964	6
7	7.786	7'595	7:397	7.195	6.987	6.774	6.228	6.338	6.112	5.889	7
8	7.639	7.455	7.266	7.072	6.871	6.666	6.457	6.244	6.058	5.810	8
9	7.485	7:310	7.129	6.942	6.420	6.223	6.321	6.146	5.937	5.722	9
	60	61	62	63	64	65	66	67	68	69	

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VALUES OF ANNUITIES ON TWO JOINT LIVES

				<u> </u>	3	y					
x	70	71	72	73	74	75	76	77	<i>7</i> 8	79	x
10	6.664	6.345	6.033	5.726	5'426	5'134	4.849	4.572	4.303	4.045	10
1	6.663	6.343	6.031	5.724	5'425	5'132	4.847	4'571	4.305	4'041	1
2	6.658	6.340	6.058	5.425	5'423	5.131	4.846	4'569	4.301	4'040	2
8	6.622	6.332	6.026	5.450	5'421	5.159	4.844	4.268	4.599	4.039	3
4	6.625	6.334	6.053	5.412	5.419	5.152	4.842	4.266	4.598	4.038	4
15	6.647	6.330	6.019	5.414	5.416	5'124	4.840	4.564	4.596	4.037	15
6	6.643	6.326	6.016	5.411	5.413	5.155	4.838	4.262	4'294	4.032	6
7	6.638	6.322	6.011	5.404	5'409	5'119	4.835	4.260	4.595	4.033	7
8	6.632	6.312	6.002	5.403	5.406	5.116	4.833	4.557	4'290	4.031	8
9	6.656	6.311	6.005	5.699	5.402	2.115	4.829	4.555	4.588	4.029	9
20	6.619	6.302	5'996	5.694	5.398	5.108	4.826	4.221	4.582	4.026	20
1	6.615	6.299	2,991	5.688	5'393	5'104	4.822	4.248	4.585	4.024	1
2	6.604	6.595	5.984	5.683	5.388	.5.099	4.818	4'544	4.278	4.031	2
3	6.296	6.584	5.978	5.676	5.382	5.094	4.813	4.240	4'275	4.014	8
4	6.284	6.276	5.970	5.640	5.376	5.089	4.809	4.236	4.541	4.014	4
25	6.578	6.268	5.963	5.663	5.340	5.083	4.804	4.233	4.562	4.011	25
6	6.268	6.259	5'954	5.656	5.363	5.077	4.798	4.22	4'263	4.007	6
7	6.228	6.549	5.946	5.648	5.356	5.041	4'793	4.252	4.258	4.003	7
8	6.247	6.539	5'937	5.640	5'349	5.064	4.787	4.216	4.523	3.998	8
9	6.236	6.550	5.928	5.631	5.341	5.028	4.780	4.211	4.248	3'994	9
30	6.234	6.518	5.918	5.623	5.333	5.020	4.774	4.202	4'243	3.989	30
1	6.215	6.302	5.008	5.613	5.322	5.043	4.767	4'499	4.538	3.984	1
2	6.499	6.196	5.897	5.604	5.316	5.032	4.460	4.492	4.535	3'979	2
8	6.485	6.183	5.886	5'594	5.304	5.054	4'753	4.486	4.556	3 974	8
4	6.471	6.140	5.874	5.283	5.298	2.018	4'745	4.479	4.550	3.969	4
85	6.456	6.124	5.863	5.572	5.588	5.009	4'737	4.472	4.513	3.963	35
6	6.440	6.145	5.849	5.260	5'277	2.000	4.728	4.464	4.302	3'957	6
7	6.424	6.152	5.835	5.248	5.566	4.990	4.419	4.456	4.199	3.920	7
8	6.406	6,111	5.821	5.232	5°254	4'979	4.410	4.448	4'192	3'944	8
9	6.384	6.094	5.802	5.231	5.545	4.968	4.400	4.439	4'184	3.936	9
40	6.364	6.076	5.489	5.206	5.558	4.956	4.689	4.429	4'175	3.929	40
1	6.342	6.024	5.44 I	5.490	5'214	4'943	4.678	4.419	4'166	3.921	1
2	6.322	6.036	5'752	5.473	2,150	4.529	4.665	4.408	4.126	3.912	2
3	6.397	6.013	5.432	5.455	5.185	4'914	4.652	4'396	4.146	3.903	8
4	6.540	5.989	5.410	5.435	5.162	4.898	4.638	4.383	4'134	3.892	4
45	6.242	5.962	5.686	5.414	5'145	4.881	4.622	4.369	4.155	3.881	45
6	6.510	5'934	5.661	2.391	5.134	4.863	4.606	4'354	4,100	3.870	6
7	6.177	5.904	5.633	5.366	5'102	4.842	4.282	4.338	4.094	3.857	7
8 9	6.101 9.140	5 ^{.8} 35	5.604	5.339	5.028	4.821	4.268	4.321	4.063	3.843 3.828	8
			5.221	5.310	5.021	4.797	4.244	4.302	4.062	1 - 1	_
50	6.024	5.797	5.236	5.278	5.053	4.771	4.24	4.581	4.043	3.811	50
1 2	6°014 5°965	5.411 5.411	5'499 5'458	5'244	4'992	4.744	4.499	4.259	4.023	3'794	1
3	2.013	5.663	5.415	5°168	4'959 4'924	4.715 4.682	4'472	4.335	4.002	3.774	2 3
4	5.856	5.615	5.368	5.156	4.885	4.647	4'443 4'412	4.181	3.979	3.754	4
55	5.496	5.22	5.318	2.080	4.844			1	3'954	3.731	l i
6	5. 73 1	5.498	5.364	5'031		4.200	4.378	4'150	3.926	3.707	55
7	5.663	5'435	5.506	4.978	4'799 4'751	4.269 4.26	4°342 4°303	4.118	3.897	3.681	6 7
8	5.289	5.367	5'145	4.025	4.700	4.480	4.303	4.082	3.865	3.652	8
9	2.211	5.396	5.079	4.863	4.646	4.430	4.519	4.004	3.795	3.289	9
	70	71	72								<u> </u>
		/-	12	73	74	75	76	77	78	79	

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VALUES OF ANNUITIES ON TWO JOINT LIVES

10 1 2 3 4	3'791 3'790 3'789 3'788 3'787	3'548 3'547 3'546	3'3 ¹ 4	83	84	85	86	87	88	89	\boldsymbol{x}
1 2 3	3.790 3.789 3.788 3.787	3'547						•			
1 2 3	3.790 3.789 3.788 3.787	3'547		3.000	2.874	2.668	2.472	2.282	3.108	1.939	10
8	3.789 3.788 3.787		3'314	3.089	2.874	2.668	2.472	2.582	2.102	1.939	1
	3 [.] 788 3 [.] 787		3.313	3.089	2.873	2.668	2.472	2.584	2.104	1.939	2
4	3.787	3.545	3'312	3.088	2.873	2.667	2.471	2.584	2'107	1,938	8
		3'545	3.311	3.084	2.872	2.667	2.471	2'284	2,106	1.938	4
15	3.786	3'543	3'310	3.086	2.871	2.666	2.470	2.583	2.106	1.938	15
6	3.784	3.245	3.309	3.082	2.871	2.662	2.470	2.583	2,100	1'937	6
7	3.783	3.241	3.308	3.084	2.870	2.664	2.469	2,585	2.102	1.937	7
8	3.781	3.239	3.307	3.083	2.869	2.664	2.468	2,581	2'104	1,936	8
9	3.779	3.537	3.302	3.085	2.867	2.663	2.467	5.5 80	2.104	1,936	9
20	3.777	3.535	3.303	3.080	2.866	2. 661	2.466	2.580	2.103	1.932	20
ī	3.774	3.233	3.301	3.079	2.865	2.660	2 465	2.279	2'102	1'934	1
2	3.772	3.231	3.599	3.077	2.863	2.659	2'464	2.278	2'101	1'934	2
8	3.769	3.259	3'297	3.075	3.861	2.657	2.462	2.572	2'100	1.933	8
4	3.766	3.226	3'295	3.073	2.860	2.626	2.461	2.522	2.099	1.935	4
25	3.763	3.23	3'292	3.071	2.858	2.654	2.460	2.274	2.098	1.931	25
6	3.759	3.250	3.590	3.068	2.856	2.652	2.458	2.273	2.092	1.930	6
7	3.756	3.212	3.287	3.066	2.823	2.620	2.456	2.521	2.095	1.929	7
8	3.752	3.213	3.284	3.063	2.821	2.648	2'454	2.269	2'094	1'927	8
9	3.748	3.210	3.581	3.000	2.849	2.646	2.452	2.268	2.093	1.926	9
30	3'744	3.206	3'277	3.057	2.846	2.644	2.450	2.566	2'091	1.925	30
l i	3'739	3.205	3.511	3.024	2.843	2.641	2'448	2.264	2.080	1.023	1
2	3.735	3.498	3.54	3.021	2.841	2.639	2.446	2.565	2.088	1.022	2
3	3.730	3.494	3.267	3.048	2.838	2.636	2.444	2.500	2.086	1.920	8
4	3.725	3.490	3.563	3.044	2.835	2.634	2'442	2.228	2.084	1.919	4
35	3.720	3.485	3.529	3'041	2.831	2.631	2'439	2.256	2.083	1.012	35
6	3.715	3.480	3.525	3.037	2.828	2.628	2.437	2.54	2.080	1.016	в
7	3.709	3.475	3.50	3.033	2.825	2.625	2.434	2.52	2.078	1.914	7
8	3.403	3.470	3'245	3.050	2.821	2.623	2.431	2.540	2.076	1,013	8
9	3.697	3.464	3.540	3.022	2.817	2.618	2'428	2.246	2.074	1.910	9
40	3.690	3.458	3'235	3.050	2.813	2.612	2.425	2.244	2.072	1.908	40
1	3.683	3.452	3.550	3.012	2.809	5.611	2,422	2'241	2.060	1.906	1
2	3.675	3.445	3.553	3.010	2.804	2.607	2'418	2.238	2.066	1.903	2
8	3.667	3.438	3.512	3.004	2.799	2.603	2'414	2'234	2.063	1,001	8
4	3.658	3.430	3.510	2.998	2.793	2.297	2.410	2.531	2.000	1,898	4
45	3.648	3.421	3.505	2.001	2.788	2.203	2'405	2.227	2.057	1.895	45
6	3.637	3.412	3.194	2.984	2.481	2.284	2'401	2.555	2.023	1.892	6
7	3.626	3'402	3.182	2.976	2.774	2.281	2.395	2.518	2.049	1.888	7
8	3.614	3.391	3.172	2.967	2.767	2.24	2.390	2.513	2.042	1.884	8
9	3.600	3'379	3.162	2.958	2.759	2.267	2.383	2.502	2'040	1.880	9
50	3.286	3.366	3.124	2.948	2.750	2.259	2.376	2,501	2.032	1.876	50
ĭi	3.240	3'352	3'141	2.932	2.240	2.221	2.369	2.102	5.050	1.871	1
2	3.223	3'337	3.158	2.925	2.730	2.241	2.361	2,188	2.053	1.862	2
8	3.534	3.321	3.113	2.013	2.418	2.232	2.352	2.180	2.016	1.800	3
4	3.214	3.303	3.092	2.898	2.706	2.251	2'343	2.172	2.000	1.823	4
55	3.493	3.583	3.080	2.883	2.693	2.209	2.332	2'163	2.001	1.846	55
6	3.469	3.563	3.065	2.867	2.678	2.496	5.351	2.123	1.992	1.839	в
7	3.444	3.540	3'042	2.849	2.662	2.482	2.309	2'142	1.983	1.831	7
8	3.416	3.516	3.050	2.830	2.646	2 467	2.502	2.131	1.973	1.855	8
9	3.384	3.189	2.997	2.809	2.627	2.451	2.585	3,118	1.962	1.813	9
	80	81	82	83	84	85	86	87	88	89	

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VALUES OF ANNUITIES OF TWO JOINT LIVES

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1 1779 17639 1486 1355 1228 1115 1003 912 822 699 548 323 2 1779 17639 1486 1355 1227 1114 17002 912 822 699 548 323 3 1778 17639 1486 1355 1227 1114 17002 912 822 699 548 323 4 1778 17639 1486 1355 1227 1114 17002 911 822 699 548 322 5 1777 17628 1485 1355 1227 1114 17002 911 822 699 548 322 7 1777 17628 1485 1354 1227 1114 17002 911 822 699 548 322 8 1777 17637 1484 1354 1226 1114 17002 911 822 699 548 322 9 1776 17637 1484 1354 1226 1114 17002 911 821 699 548 322 9 1776 17637 1484 1354 1226 1113 17001 911 821 699 548 322 1 1775 17636 1483 1353 1226 1113 17001 911 821 698 548 322 1 1775 17636 1483 1353 1225 1113 17001 911 821 698 548 322 2 1774 17625 1483 1353 1224 1111 17001 910 821 698 548 322 3 1774 17625 1483 1353 1224 1111 17001 910 820 698 548 322 2 1777 17632 1481 1351 1224 1111 17001 910 820 698 548 322 2 1777 17632 1481 1351 1224 1111 17001 910 820 698 548 322 2 1 1765 17688 1485 1338 1223 1111 17001 910 820 698 548 322 2 1 1765 17688 1479 1330 1223 1111 17001 910 820 698 548 322 2 1 1765 17688 1485 1338 1223 1111 17001 910 820 698 548 322 3 1763 1761 1747 1347 1221 1700 999 999 820 697 547 322 3 1763 1761 1747 1347 1221 1700 999 999 820 697 547 322 3 1763 1761 1747 1344 1218 1700 999 998 819 697 547 322 3 1763 1764 1766 1746 1734 1721 1700 998 998 819 697 547 322 3 1763 1764 1766 1747 1347 1219 1700 998 998 819 697 547 322 3 1764 1760 1747 1347 1	x	90	91	92	93	94	95	96	97	98	99	100	IOI	x
1 1779 1629 1486 1355 1228 1115 1003 912 822 699 548 323 327 828 1778 1629 1486 1355 1227 1114 1002 912 822 699 548 322 328	10	1'779	1.630	1.486	1'355	1.558	1'115	1.003	'012	.822	.600	.548	.323	10
1	1								1 -	.822				1
3	2	1.779	1.629			1.558				.822				2
4 1778 1629 1486 1355 1227 1114 1002 912 822 699 548 322 7177 1628 1485 1354 1227 1114 1002 911 822 699 548 322 7177 1628 1485 1354 1227 1114 1002 911 822 699 548 322 727 1777 1628 1485 1354 1227 1114 1002 911 822 699 548 322 727 1777 1627 1484 1354 1226 1113 1002 911 821 699 548 322 329 1776 1627 1484 1353 1226 1113 1002 911 821 699 548 322 322 322 1774 1625 1483 1352 1226 1113 1002 911 821 698 548 322 323 1774 1625 1482 1352 1225 1113 1001 911 821 698 548 322 323 1774 1625 1482 1352 1225 1113 1001 910 821 698 548 322 323 1777 1622 1480 1351 1224 1111 1000 910 821 698 548 322 328 1777 1622 1480 1351 1224 1111 1000 999 820 698 547 322 328 1776 1622 1478 1335 1223 1111 999 909 820 698 547 322 328 1766 1620 1478 1348 1221 1109 998 908 819 697 547 322 328 1766 1621 1476 1347 1348 1221 1109 998 908 819 697 547 322 1160 998 908 819 697 547 322 1160 998 908 819 697 547 322 1160 998 908 819 697 547 322 1160 998 908 819 697 547 322 1160 998 908 819 697 547 322 1160 998 908 819 697 547 322 1160 998 908 819 697 547 322 1160 998 908 819 697 547 322 1160 998 908 819 697 547 322 1160 998 908 819 697 547 322 1160 998 908 819 697 547 322 1160 998 908 819 697 547 322 1160 998 908 819 697 547 322 1160 998 908 819 697 547 322 1160 998 908 819 697 547 322 1160 998 908 819 697 547 322 1160 908 908 819 697 547 322 1160 908 908 819 697 547 322 1160 908 908 819 697 547 322 1160 908 908 819 697 547 322	3	1.778	1.629		1.355	1.552				.822				3
16	4	1.778	1.629	1.486	1.355	1.227	1'114	1'002	912	.822				4
6 1777 17628 1485 1354 1227 1114 1002 911 822 699 548 322 7 1777 17628 1485 1354 1226 1114 1002 911 821 699 548 322 9 1776 17627 1484 1354 1226 1113 1002 911 821 699 548 322 320 1776 17627 1484 1354 1226 1113 1001 911 821 699 548 322 320 1776 17627 1484 1353 1226 1113 17001 911 821 698 548 322 1774 17625 1483 1353 1226 1113 17001 911 821 698 548 322 1774 17625 1483 1353 1226 1113 17001 910 821 698 548 322 1774 17625 1483 1353 1226 1113 17001 910 821 698 548 322 31774 17625 1483 1351 1224 1112 17000 910 821 698 548 322 31774 17622 1485 1355 1223 1112 17000 910 820 698 548 322 328 1774 17622 1485 1355 1223 1111 17000 999 999 820 697 547 322 328 1769 17621 1479 1350 1223 1110 999 999 820 697 547 322 328 1763 17621 1479 1350 1223 1110 999 998 8819 697 547 322 328 1769 17610 1477 1347 1220 1708 997 997 818 696 546 322 31764 17610 1474 1345 1221 1709 998 998 8819 697 547 322 31764 17611 1473 1344 1218 1706 996 996 817 696 546 321 41761 17614 1473 1344 1218 1706 996 996 817 696 546 321 41753 17624 1468 1340 1215 1703 999 990 815 694 545 321 41753 17624 1464 1337 1216 1703 999 990 815 694 545 321 41753 17624 1464 1337 1216 1703 999 990 815 694 545 321 41753 17624 1468 1335 1220 1709 998 998 815 696 546 321 41743 1758 1769 1468 1335 1220 1709 998 998 817 696 546 321 41743 1758 1769 1468 1335 1220 1703 999 990 815 694 545 321 41753 17624 1468 1335 1221 1700 999 990 815 694 545 321 41753 17624 1468 1335 1221 1700 999	15	1'778	1.628	1.482	1	1'227	1'114	1'002		.822				15
7									-			548		6
8 1.777 1.627 1.484 1.354 1.226 1.114 1.002 911 821 699 548 322 320 1.776 1.627 1.484 1.353 1.226 1.113 1.001 911 821 698 548 322 322 1.774 1.625 1.483 1.353 1.226 1.113 1.001 911 821 698 548 322 328 1.774 1.625 1.483 1.353 1.226 1.113 1.001 910 821 698 548 322 328 1.774 1.625 1.482 1.352 1.225 1.112 1.001 910 821 698 548 322 328 1.774 1.625 1.482 1.352 1.225 1.112 1.001 910 821 698 548 322 328 1.774 1.625 1.482 1.351 1.224 1.111 1.000 910 820 698 548 322 328 1.774 1.625 1.485 1.355 1.223 1.111 1.000 909 820 698 548 322 328 1.763 1.621 1.479 1.350 1.223 1.111 1.000 909 820 697 547 322 8 1.763 1.621 1.479 1.350 1.223 1.111 999 909 820 697 547 322 8 1.763 1.621 1.479 1.350 1.223 1.110 999 998 889 697 547 322 1.764 1.611 1.475 1.346 1.221 1.109 998 908 819 697 547 322 1.764 1.611 1.475 1.346 1.210 1.108 997 907 818 696 546 322 1.764 1.611 1.473 1.344 1.218 1.106 995 905 817 696 546 321 31753 1.621 1.471 1.342 1.216 1.105 994 905 816 695 546 321 322 321 322 321 322 321 322 321 322 322 322 323 322 323				1.485						_ 1				7
9	8	1.777	1.627			1 -	1 1			.821				8
1	9	1.776	1.627	1'484	1'354	1.556	1,113	1.003		.821			-	9
1 1.775 1.626 1.483 1.353 1.226 1.113 1.001 911 821 698 548 322 32 1.774 1.625 1.483 1.352 1.225 1.113 1.001 910 821 698 548 322 31.774 1.625 1.482 1.352 1.225 1.113 1.001 910 821 698 548 322 32 31.774 1.625 1.482 1.352 1.224 1.112 1.000 910 820 698 548 322 322 325 1.772 1.623 1.481 1.351 1.224 1.111 1.000 909 820 698 547 322 322 322 322 323 32	20	1.776	1.627	1.484	1'353	1.556	l	1,001	110.	.821	- /		322	20
1							-		-				322	1
3			1.625			l .				_				2
4 1'773 1'624 1'481 1'351 1'224 1'112 1'000 910 820 698 548 322 8 1'771 1'622 1'480 1'350 1'224 1'111 1'000 909 820 698 547 322 7 1'770 1'622 1'479 1'350 1'223 1'111 999 909 820 697 547 322 8 1'769 1'621 1'479 1'349 1'222 1'100 998 908 819 697 547 322 30 1'767 1'619 1'477 1'347 1'221 1'100 998 908 819 697 547 322 1 1'765 1'619 1'477 1'347 1'221 1'100 998 908 819 697 547 322 1 1'764 1'617 1'474 1'345 1'221 1'100 998 908 818 <th>3</th> <th></th> <th>1.622</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th>- 1</th> <th>3</th>	3		1.622										- 1	3
25	4		1.624						-				.322	4
6 1'771 1'622 1'480 1'350 1'223 1'111 '999 '909 '820 '697 '547 '322 7 1'769 1'622 1'479 1'349 1'223 1'110 '999 '909 '820 '697 '547 '322 8 1'769 1'612 1'478 1'348 1'221 1'109 '998 '908 '819 '697 '547 '322 80 1'767 1'619 1'477 1'347 1'221 1'109 '998 '908 '819 '697 '547 '322 2 1'765 1'618 1'476 1'347 1'220 1'108 '997 '907 '818 '696 '546 '322 2 1'761 1'615 1'447 1'345 1'219 1'108 '997 '907 '818 '696 '546 '322 3 1'762 1'612 1'471 1'342 1'221 1'106 '995	25	1.772	1.623	1.481	i	1.554	1.111	1.000	_	820	- 1		1	25
7 1'770 1'622 1'479 1'350 1'223 1'110 '999 '909 '820 '697 '547 '322 8 1'769 1'621 1'478 1'349 1'222 1'110 '999 '908 '819 '697 '547 '322 80 1'767 1'619 1'477 1'347 1'221 1'109 '998 '908 '819 '697 '547 '322 2 1'764 1'617 1'475 1'346 1'221 1'108 '997 '907 '818 '696 '546 '322 2 1'764 1'617 1'475 1'346 1'219 1'108 '997 '907 '818 '696 '546 '322 3 1'763 1'615 1'474 1'345 1'219 1'107 '996 '906 '817 '696 '546 '322 35 1'760 1'613 1'472 1'341 1'216 1'107 '996 '905 '817 '695 '546 '321 4 1'759 1												1		6
8 1'769 1'621 1'479 1'349 1'222 1'100 '998 '908 819 '697 '547 '322 80 1'768 1'619 1'477 1'347 1'221 1'109 '998 '908 '819 '697 '547 '322 1 1'765 1'618 1'476 1'347 1'221 1'109 '998 '908 '819 697 '547 '322 2 1'764 1'618 1'476 1'347 1'220 1'108 '997 '907 '818 696 '546 '322 3 1'763 1'615 1'474 1'345 1'219 1'107 '996 '906 '817 696 '546 '322 3 1'761 1'614 1'473 1'344 1'218 1'106 '996 '906 '817 695 '546 '321 3 1'761 1'612 1'471 1'342 1'216 1'106 '995	7	1.770	1.622	1.479			1,110			·820				7
9	8	1.769	1.651	1.479		1.555	1.110			.819		-		8
1 1765 1618 1476 1347 1220 1108 997 907 818 696 546 322 1764 1617 1475 1346 1219 1108 997 997 818 696 546 322 31763 1615 1474 1345 1219 1106 996 906 817 695 546 321 321 1761 1614 1473 1344 1218 1106 996 906 817 695 546 321 321 325 321 325 321	9	1.768	1.650	1'478	1.348	1,551	1,100	.998	.908	.819	.697	547	.322	9
1 1'765 1'618 1'476 1'347 1'220 1'108 '997 '907 '818 '696 '546 '322 1'764 1'617 1'475 1'345 1'219 1'108 '997 '907 '818 '696 '546 '322 '326 '1761 1'614 1'473 1'344 1'218 1'106 '996 '906 '817 '695 '546 '321 '341 1'761 1'614 1'473 1'344 1'218 1'106 '996 '906 '817 '695 '546 '321 '321 '341 1'472 1'343 1'217 1'106 '995 '995 '817 '695 '546 '321 '759 1'612 1'471 1'342 1'216 1'105 '994 '905 '816 '695 '545 '321 '1757 1'610 1'470 1'341 1'216 1'104 '994 '904 '816 '694 '545 '321 '1755 1'609 1'468 1'340 1'215 1'103 '993 '904 '815 '694 '545 '321 '1755 1'608 1'467 1'339 1'214 1'103 '992 '903 '815 '694 '545 '321 '1750 1'604 1'464 1'337 1'212 1'101 '991 '902 '814 '693 '544 '321 '1750 1'604 1'461 1'337 1'212 1'101 '991 '902 '814 '693 '544 '321 '1748 1'602 1'463 1'335 1'210 1'100 '990 '901 '812 '692 '544 '320 '321 '1748 1'602 1'463 1'335 1'210 1'100 '990 '901 '812 '692 '544 '320 '321 '335 1'210 1'100 '990 '990 '812 '692 '544 '320 '320 '334 1'598 1'455 1'332 1'208 1'098 '988 '899 '811 '691 '543 '320 '41738 1'598 1'455 1'325 1'201 1'092 '983 '895 '809 '813 '691 '543 '320 '1738 1'588 1'451 1'325 1'201 1'092 '983 '895 '808 '689 '541 '319 '1728 1'588 1'448 1'322 1'197 1'089 '982 '894 '807 '688 '541 '319 '1728 1'588 1'448 1'321 1'195 1'084 '977 '890 '804 '685 '549 '318 '318 '170 1'575 1'438 1'314 1'192 1'084 '977 '890 '804 '685 '539 '318 '319 '175 1'554 1'421 1'391 1'189 1'082 '975 '888 '802 '684 '538 '318 '311 1'105 1'086 '970 '884 '799 '682 '537 '317 '585 1'448 1'311 1'189 1'082 '975 '886 '801	30		1.619	1'477	1'347	1.551	1,100	.998	.908	.819	.697	547	322	30
1764 1.617 1.475 1.346 1.219 1.108 997 907 818 696 546 322 31763 1.615 1.474 1.345 1.219 1.107 996 906 817 695 546 321 761 1.614 1.473 1.344 1.218 1.106 996 906 817 695 546 321 760 1.613 1.472 1.343 1.216 1.105 995 905 817 695 546 321 7757 1.610 1.470 1.341 1.216 1.105 994 995 816 695 545 321 7757 1.610 1.470 1.341 1.216 1.105 994 995 816 695 545 321 8 1.755 1.609 1.468 1.340 1.215 1.103 993 904 815 694 545 321 1.755 1.604 1.466 1.338 1.213 1.102 992 903 815 694 545 321 1.755 1.604 1.464 1.337 1.212 1.101 991 902 814 693 544 321 1.755 1.604 1.464 1.337 1.212 1.101 991 902 814 693 544 321 1.746 1.601 1.461 1.335 1.210 1.100 990 901 813 692 544 320 31746 1.601 1.461 1.335 1.210 1.100 990 901 813 692 544 320 41.743 1.598 1.455 1.335 1.205 1.095 986 898 812 691 543 320 41.738 1.588 1.455 1.332 1.205 1.095 986 898 811 691 543 320 41.738 1.588 1.455 1.325 1.205 1.092 983 895 880 689 541 319 1.728 1.588 1.455 1.325 1.201 1.002 983 895 808 689 541 319 1.728 1.588 1.445 1.325 1.201 1.092 983 895 808 689 541 319 1.728 1.588 1.445 1.325 1.201 1.092 983 895 808 689 541 319 1.728 1.588 1.445 1.325 1.105 1.092 983 895 808 689 541 319 1.720 1.578 1.445 1.325 1.105 1.092 983 895 808 689 541 319 1.728 1.588 1.445 1.325 1.105 1.092 983 895 808 689 541 319 1.728 1.588 1.445 1.325 1.105 1.092 983 895 808 689 541 319 1.720 1.578 1.442 1.311 1.195 1.086 977 880 804 685 530 318 31710 1.570 1.434 1.311 1.185 1.095 977 880 804 685 530 318 31710 1.550 1.430 1.30	1	1.762	1.618			1.550	1,108			·818	.696		322	1
3	2			1.475	1.346	1.519	1,108		907		.696		322	2
35 1 760 1 613 1 472 1 343 1 217 1 106 995 905 817 695 546 321 6 1 759 1 612 1 471 1 342 1 216 1 105 994 905 816 695 545 321 7 1 757 1 610 1 470 1 341 1 216 1 104 994 904 816 694 545 321 8 1 755 1 609 1 468 1 340 1 215 1 103 993 904 815 694 545 321 40 1 752 1 606 1 466 1 338 1 213 1 102 992 902 814 693 544 321 1 1 750 1 604 1 464 1 337 1 210 1991 902 814 693 544 321 2 1 748 1 601 1 461 1 334 1 209 1 992 902 814 693 544					1.342	1.519	1'107	.996	906	.817	.696	.546	.321	3
6 1'759 1'612 1'471 1'342 1'216 1'105 '994 '905 '816 '695 '545 '321 7 1'757 1'610 1'470 1'341 1'216 1'104 '994 '904 '816 '694 '545 '321 8 1'755 1'609 1'468 1'340 1'215 1'103 '993 '904 '815 '694 '545 '321 40 1'752 1'606 1'466 1'338 1'213 1'102 '992 '902 '814 '693 '544 '321 1 1'750 1'606 1'464 1'337 1'212 1'101 '991 '902 '814 '693 '544 '321 2 1'748 1'602 1'463 1'337 1'212 1'101 '991 '902 '814 '693 '544 '321 4 1'741 1'596 1'457 1'331 1'208 '098 '890	4	1.461	1.614	1.473	1'344	1.518	1,109	.996	·906	.817	.695	.546	.321	4
6 1'759 1'612 1'471 1'342 1'216 1'105 '994 '905 '816 '695 '545 '321 7 1'757 1'610 1'470 1'341 1'216 1'104 '994 '904 '816 '694 '545 '321 8 1'755 1'609 1'468 1'340 1'215 1'103 '993 '904 '815 '694 '545 '321 40 1'752 1'606 1'466 1'338 1'213 1'102 '992 '902 '814 '693 '544 '321 1 1'750 1'604 1'464 1'337 1'212 1'101 '991 '902 '814 '693 '544 '321 2 1'748 1'602 1'463 1'335 1'210 1'100 '990 '901 '813 '692 '544 '320 3 1'746 1'601 1'461 1'331 1'206 1'098 '988 *899 '811 '691 '543 '320 4 1'743 1'	35	1.460	1.613	1.472	1.343	1.514	1,106	995	905	·817	695	.546	321	35
8 1'755 1'609 1'468 1'340 1'215 1'103 '993 '904 '815 '694 '545 '321 40 1'752 1'606 1'466 1'338 1'213 1'102 '992 '902 '814 '693 '544 '321 1 1'750 1'604 1'464 1'337 1'212 1'101 '991 '902 '814 '693 '544 '321 2 1'748 1'602 1'463 1'337 1'212 1'101 '991 '902 '814 '693 '544 '321 3 1'746 1'601 1'461 1'334 1'209 1'099 '989 '900 '812 '692 '544 '320 4 1'741 1'596 1'457 1'331 1'206 1'096 '987 '899 '811 '691 '543 '320 4 1'738 1'591 1'453 1'322 1'203 1'096 '987		1.759	1.615			1.519	1.102		.905	·816	695		.321	в
9 1'754 1'608 1'467 1'339 1'214 1'103 '992 '903 '815 '694 '545 '321 40 1'752 1'606 1'466 1'338 1'213 1'102 '992 '902 '814 '693 '544 '321 1 1'750 1'604 1'464 1'337 1'212 1'101 '991 '902 '814 '693 '544 '321 2 1'748 1'602 1'463 1'335 1'210 1'100 '990 '901 '813 '692 '544 '320 3 1'746 1'601 1'461 1'334 1'209 1'099 '989 '900 '812 '692 '544 '320 4 1'743 1'598 1'459 1'331 1'206 1'096 '987 '899 '811 '691 '543 '320 45 1'741 1'596 1'457 1'331 1'206 1'095 '986 '898 '811 '691 '543 '320 7 1'735 1		1.757	1.910	1.470	1.341	1,519	1'104	'994	904	·816	694	545	.321	7
40 1.752 1.666 1.466 1.338 1.213 1.102 .992 .902 .814 .693 .544 .321 1.745 1.604 1.464 1.337 1.212 1.101 .990 .901 .813 .692 .544 .320 1.748 1.602 1.463 1.335 1.210 1.100 .990 .901 .813 .692 .544 .320 1.743 1.598 1.459 1.332 1.208 1.098 .988 .899 .812 .691 .543 .320 4 1.743 1.598 1.459 1.332 1.208 1.098 .988 .899 .812 .691 .543 .320 6 1.738 1.594 1.455 1.329 1.205 1.095 .986 .898 .810 .690 .542 .320 7 1.735 1.591 1.453 1.325 1.201 1.092 .985 .897 .809 .689 .542 .320 8 1.731 1.588 1.451 1.325 1.201 1.092 .983 .895 .808 .689 .541 .319 1.728 1.585 1.448 1.322 1.199 1.090 .982 .894 .807 .688 .541 .319 1.720 1.578 1.445 1.320 1.197 1.089 .980 .893 .806 .687 .540 .319 1.720 1.578 1.442 1.317 1.195 1.084 .977 .890 .804 .685 .539 .318 1.710 1.570 1.438 1.311 1.189 1.082 .975 .888 .802 .684 .538 .318 1.704 1.565 1.430 1.307 1.186 1.092 .972 .886 .801 .683 .537 .317 1.665 1.548 1.416 1.295 1.175 1.070 .964 .879 .970 .884 .799 .682 .537 .317 1.665 1.548 1.416 1.295 1.175 1.070 .964 .879 .795 .679 .535 .316 8 1.697 1.541 1.410 1.289 1.171 1.066 .961 .877 .793 .677 .533 .316 1.669 1.534 1.404 1.284 1.166 1.062 .958 .874 .790 .675 .532 .315				1.468	1.340	1.512	1,103	'993	904		·694	545	.321	8
1 1'750 1'604 1'464 1'337 1'212 1'101 '991 '902 '814 '693 '544 '321 2 1'748 1'602 1'463 1'335 1'210 1'100 '990 '901 '813 '692 '544 '320 3 1'746 1'601 1'461 1'334 1'209 1'099 '989 '900 '812 '692 '544 '320 4 1'743 1'598 1'459 1'332 1'208 1'098 '989 '809 '812 '691 '543 '320 45 1'741 1'596 1'457 1'331 1'206 1'096 '987 '899 '811 '691 '543 '320 7 1'735 1'591 1'453 1'327 1'203 1'094 '985 '899 '811 '691 '543 '320 8 1'731 1'588 1'451 1'325 1'201 1'092 '983 '895 '809 '689 '541 '319 9 1'728 1'	9	1.724	1.608	1.462	1,339	1.514	1,103	'992	.903	.812	694	545	.321	9
1 1'750 1'604 1'464 1'337 1'212 1'101 '991 '902 '814 '693 '544 '321 2 1'748 1'602 1'463 1'335 1'210 1'100 '990 '901 '813 '692 '544 '320 3 1'746 1'601 1'461 1'334 1'209 1'099 '989 '900 '812 '692 '544 '320 4 1'743 1'598 1'457 1'331 1'206 1'096 '987 '899 '811 '691 '543 '320 45 1'741 1'596 1'457 1'331 1'206 1'096 '987 '899 '811 '691 '543 '320 7 1'735 1'591 1'453 1'327 1'203 1'094 '985 '899 '811 '691 '543 '320 8 1'731 1'588 1'451 1'325 1'201 1'092 '983 '895 '809 '689 '542 '320 8 1'722 1'	40	1.425		1.466	1.338	1.513	1.103	.992	902	·814	.693	544	321	40
2 1.748 1.602 1.463 1.335 1.210 1.100 .990 .901 .813 .692 .544 .320 3 1.746 1.601 1.461 1.334 1.209 1.099 .989 .900 .812 .692 .544 .320 4 1.743 1.598 1.459 1.332 1.208 1.098 .988 .899 .811 .691 .543 .320 45 1.741 1.596 1.457 1.331 1.206 1.096 .987 .899 .811 .691 .543 .320 6 1.738 1.594 1.455 1.329 1.205 1.095 .986 .898 .810 .690 .542 .320 7 1.735 1.591 1.453 1.327 1.203 1.094 .985 .897 .809 .689 .542 .320 8 1.731 1.588 1.445 1.322 1.199 1.090 .982 .894 .807 .688 .541 .319 9 1.724 1.	1	1.420	1.604	1'464		1.515	1,101	.991	902	814			321	1
4 1.743 1.598 1.459 1.332 1.208 1.098 .988 .899 .812 .691 .543 .320 45 1.741 1.596 1.457 1.331 1.206 1.096 .987 .899 .811 .691 .543 .320 6 1.738 1.594 1.455 1.329 1.205 1.095 .986 .893 .810 .690 .542 .320 7 1.735 1.591 1.453 1.327 1.203 1.094 .985 .897 .809 .689 .542 .320 8 1.731 1.588 1.451 1.325 1.201 1.092 .983 .895 .808 .689 .541 .319 9 1.728 1.585 1.448 1.322 1.199 1.090 .982 .894 .807 .688 .541 .319 50 1.724 1.582 1.445 1.320 1.197 1.089 .980 .893 .806 .687 .540 .319 1 1.702 1				1.463	1.332	1,510	1,100		.001		.692	544		2
45 1.741 1.596 1.457 1.331 1.206 1.096 1.987 1.899 1.738 1.594 1.455 1.329 1.205 1.095 1.986 1.898 1.899 1.455 1.329 1.203 1.094 1.898 1.731 1.588 1.451 1.325 1.201 1.092 1.092 1.888 1.888 1.889 1.448 1.322 1.199 1.090 1.828 1.889 1.448 1.322 1.199 1.089 1.208 1			_	-		1 5				_ 1	1	. 544	.320	3
6 1.738 1.594 1.455 1.329 1.205 1.095 .986 .898 .810 .690 .542 .320 7 1.735 1.591 1.453 1.327 1.203 1.094 .985 .897 .809 .689 .542 .320 8 1.731 1.588 1.451 1.325 1.201 1.092 .983 .895 .808 .689 .541 .319 9 1.728 1.585 1.448 1.322 1.199 1.090 .982 .894 .807 .688 .541 .319 50 1.724 1.582 1.445 1.320 1.197 1.089 .980 .893 .806 .687 .540 .319 1 1.720 1.578 1.442 1.317 1.195 1.086 .979 .891 .805 .686 .540 .318 2 1.715 1.574 1.434 1.311 1.189 1.082 .975			1.298		1.335	1.508	1.098	.988	.899	1	.691	543	.350	4
7 1.735 1.591 1.453 1.327 1.203 1.094 .985 .897 .809 .689 .542 .320 8 1.731 1.588 1.451 1.325 1.201 1.092 .983 .895 .808 .689 .541 .319 9 1.728 1.585 1.448 1.322 1.199 1.090 .982 .894 .807 .688 .541 .319 50 1.724 1.582 1.445 1.320 1.197 1.089 .980 .893 .806 .687 .540 .319 1 1.720 1.578 1.442 1.317 1.195 1.086 .979 .891 .805 .686 .540 .318 2 1.715 1.574 1.438 1.314 1.192 1.084 .977 .890 .804 .685 .539 .318 3 1.710 1.570 1.434 1.311 1.189 1.082 .975 .888 .802 .684 .538 .318 4 1.704 1.565 1.430 1.307 1.186 1.079 .972 .886 .801 .683 .537 .317 55 1.698 1.560 1.426 1.303 1.183 1.076 .970 .884 .799 .682 .537 .317 56 1.692 1.554 1.421 1.299 1.179 1.073 .967 .882 .797 .680 .536 .317 7 1.685 1.548 1.416 1.295 1.171 1.066 .961 .877 .793 .677 .533 .316 8 1.677 1.541 1.410 1.289 1.171 1.066 .961 .877 .793 .677 .533 .316 9 1.669 1.534 1.404 1.284 1.166 1.062 .958 .874 .790 .675 .532 .315	_						-					543	.320	45
8 1.731 1.588 1.451 1.325 1.201 1.092 .983 .895 .808 .689 .541 .319 9 1.728 1.585 1.448 1.322 1.199 1.090 .982 .894 .807 .688 .541 .319 50 1.724 1.582 1.445 1.320 1.197 1.089 .980 .893 .806 .687 .540 .319 1 1.720 1.578 1.442 1.317 1.195 1.086 .979 .891 .805 .686 .540 .318 2 1.715 1.574 1.438 1.314 1.192 1.084 .977 .890 .804 .685 .539 .318 3 1.710 1.565 1.430 1.307 1.186 1.079 .972 .888 .802 .684 .538 .318 4 1.704 1.565 1.426 1.303 1.183 1.076 .970	9											542		6
9 1.728 1.585 1.448 1.322 1.199 1.090 '982 '894 '807 '688 '541 '319 50 1.724 1.582 1.445 1.320 1.197 1.089 '980 '893 '806 '686 '540 '319 1 1.720 1.578 1.442 1.317 1.195 1.086 '979 '891 '805 '686 '540 '318 2 1.715 1.574 1.438 1.314 1.192 1.084 '977 '890 '804 '685 '539 '318 3 1.710 1.570 1.434 1.311 1.189 1.082 '975 '888 '802 '684 '538 '318 4 1.704 1.565 1.430 1.303 1.183 1.079 '972 '886 '801 '683 '537 '317 55 1.698 1.560 1.426 1.303 1.183 1.076 '970							- 1		897					7
50 1.724 1.582 1.445 1.320 1.197 1.089 .980 .893 .806 .687 .540 .319 1 1.720 1.578 1.442 1.317 1.195 1.086 .979 .891 .805 .686 .540 .318 2 1.715 1.574 1.438 1.314 1.192 1.084 .977 .890 .804 .685 .539 .318 3 1.710 1.570 1.434 1.311 1.189 1.082 .975 .888 .802 .684 .538 .318 4 1.704 1.565 1.426 1.303 1.183 1.076 .970 .884 .799 .682 .537 .317 55 1.698 1.560 1.426 1.303 1.183 1.076 .970 .884 .799 .682 .537 .317 7 1.685 1.548 1.416 1.295 1.175 1.070 .964				1.451	1.322			983	895					8
1 1.720 1.578 1.442 1.317 1.195 1.086 .979 .891 .805 .686 .540 .318 2 1.715 1.574 1.438 1.314 1.192 1.084 .977 .890 .804 .685 .539 .318 3 1.710 1.570 1.434 1.311 1.189 1.082 .975 .888 .802 .684 .538 .318 4 1.704 1.565 1.430 1.307 1.186 1.079 .972 .886 .801 .683 .537 .317 55 1.698 1.560 1.426 1.303 1.183 1.076 .970 .884 .799 .682 .537 .317 6 1.692 1.554 1.421 1.299 1.175 1.070 .967 .882 .797 .680 .536 .317 7 1.685 1.548 1.416 1.289 1.171 1.066 .961 .877 .795 .679 .535 .316 8 1.677 1.		l '			l		- 1				J	541		9
2 1.715 1.574 1.438 1.314 1.192 1.084 .977 .890 .804 .685 .539 .318 3 1.710 1.570 1.434 1.311 1.189 1.082 .975 .888 .802 .684 .538 .318 4 1.704 1.565 1.430 1.307 1.186 1.079 .972 .886 .801 .683 .537 .317 55 1.698 1.560 1.426 1.303 1.183 1.076 .970 .884 .799 .682 .537 .317 7 1.685 1.548 1.421 1.299 1.179 1.073 .967 .882 .797 .680 .536 .317 7 1.685 1.548 1.416 1.295 1.171 1.066 .961 .877 .795 .679 .535 .316 8 1.677 1.541 1.404 1.289 1.171 1.066 .961 .877 .793 .677 .533 .316 9 1.669 1.									.893	.806			.319	50
3 1.710 1.570 1.434 1.311 1.189 1.082 .975 .888 .802 .684 .538 .318 4 1.704 1.565 1.430 1.307 1.186 1.079 .972 .886 .801 .683 .537 .317 55 1.698 1.560 1.426 1.303 1.183 1.076 .970 .884 .799 .682 .537 .317 6 1.692 1.554 1.421 1.299 1.179 1.073 .967 .882 .797 .680 .536 .317 7 1.685 1.548 1.416 1.2295 1.175 1.070 .964 .879 .795 .679 .535 .316 8 1.677 1.541 1.410 1.289 1.171 1.066 .961 .877 .793 .677 .533 .316 9 1.669 1.534 1.404 1.284 1.166 1.062 .958 .874 .790 .675 .532 .315													.318	1
4 1'704 1'565 1'430 1'307 1'186 1'079 '972 '886 '801 '683 '537 '317 55 1'698 1'560 1'426 1'303 1'183 1'076 '970 '884 '799 '682 '537 '317 6 1'692 1'554 1'421 1'299 1'179 1'073 '967 '882 '797 '680 '536 '317 7 1'685 1'548 1'416 1'295 1'175 1'070 '964 '879 '795 '679 '535 '316 8 1'677 1'534 1'404 1'284 1'166 1'062 '958 '874 '790 '675 '533 '316 9 1'669 1'534 1'404 1'284 1'166 1'062 '958 '874 '790 '675 '532 '315											.085			2
55 1.698 1.560 1.426 1.303 1.183 1.076 .970 .884 .799 .682 .537 .317 .1685 1.554 1.416 1.295 1.175 1.070 .964 .879 .795 .679 .535 .316 .1669 1.534 1.410 1.289 1.171 1.066 .961 .877 .793 .677 .533 .316 .1569 1.534 1.404 1.284 1.166 1.062 .958 .874 .790 .675 .532 .315											084			3
6 1'692 1'554 1'421 1'299 1'179 1'073 '967 '882 '797 '680 '536 '317 7 1'685 1'548 1'416 1'295 1'175 1'070 '964 '879 '795 '679 '535 '316 8 1'677 1'541 1'404 1'289 1'171 1'066 '961 '877 '793 '677 '533 '316 9 1'669 1'534 1'404 1'284 1'166 1'062 '958 '874 '790 '675 '532 '315														4
7 1.685 1.548 1.416 1.295 1.175 1.070 .964 .879 .795 .679 .535 .316 8 1.677 1.541 1.410 1.289 1.171 1.066 .961 .877 .793 .677 .533 .316 9 1.669 1.534 1.404 1.284 1.166 1.062 .958 .874 .790 .675 .532 .315										799				55
8 1.677 1.241 1.410 1.580 1.121 1.066 1.067 .877 .403 .677 .233 .316 9 1.669 1.234 1.404 1.584 1.166 1.065 .958 .874 .400 .675 .233 .316		1.68		T'476	1.504	1 179								6
9 1.669 1.234 1.404 1.584 1.166 1.065 .824 .824 .420 .622 .232 .312		1.677							979					7
75 -14 190 -13 332 323	•	1.660												8
		90												
90 91 92 93 94 95 96 97 98 99 100 101		, yu	, A _T	y2	93	94	95	90	97	98	99	100	IOI	<u> </u>

$\mathbf{0}^{\mathtt{M}}$

$3\frac{1}{2}$ per cent.

VALUES OF ANNUITIES ON TWO JOINT LIVES.

Age of	Age of 1	Elder Life	Reference
Younger Life (at side).	(At top).	(At bottom).	page in Tables.
10–19	10–19		234
10-29	20-29	_	235
10-39	30-39	-	236
10-49	40-49	-	237
10–59	50-59	_	238
10–59	60–69	_	239
10–59	70-79	_	240
10-59	80-89		241
10–59	90–101	_	242
60–61		60-61	238
60-71	_	62-71	237
60–81	_	72-81	236
60–91		82-91	235
60–101		92-101	234

 $\mathbf{O}_{\mathbf{M}}$

VALUES OF ANNUITIES ON TWO JOINT LIVES.

 $\mathbf{3}^{\frac{1}{2}}$ PER

					3	/				•	
<i>x</i>	10	11	12	13	14	15	16	17	18	19	\boldsymbol{x}
10	19 [.] 994	19.835	19.829	19.738	19'64 3	19 [.] 543	19 . 438	19.327	19'212	19.092	10 1
		11	19.670	19.284	19.493	19.397	19.596	19.190	19.078	18.962	2
	101	100	12	19 . 500	19'411	19.317	19.136	19'114	18'927	18.891 18.815	3 4
101 100	°107	197	_99_	98	14	19'143	19.049	18'949	18.844	18.735	15
99	150	'220	252		97	15	18'956	18·859 18·764	18.757	18.260	6 7
8 7	'161	°238	°275	.302 .319	337	96		17	18.268	18.465	8
6	175	.565	.302	337	357	37 9	95	94	18	18 ·3 66	9
5	185	*280	327	.363	385	'40 9	'441		93		
94 3	°193	°294	·346 ·367	.3 85	'409 '435	'435 '464	.470 .202	.201 .236	.574	92	
2	210	·325	.382	'43 1	459	'490	.231	.268	.608	·647	92
90	'218 '225	339 353	'405 '422	.453 .474	°484 °508	·518 ·544	.261 .261	.633	·645 ·680	·687 ·725	1 90
89	.232	•366	'440	. 496	.231	570	.619	.665	715	.763	89
8 7	.239	·378	456	.216	°554	[.] 594	·647	695	750	·801 ·838	8 7
6	*245 *251	*390 *401	'472 '487	°535 °553	·576 ·59 7	·619	·673	725 755	·783 ·815	·874	6
5	. 256	'411	.205	·57 I	617	.664	725	.783	.847	.909	5
8 <u>4</u> 3	°261	421	·515	·588 ·603	·636 ·654	·686	749	·810	·877	942	84 3
2	205	°430 °439	·528 ·540	618	.671	.706 .726	772 794	.861	*906 *934	975 1 .00 6	2
1 80	274	447	.221	632	.687	744	.815	.884	.961	1.036	1
79	°277 °281	°454 °461	·562 ·572	·646 ·658	703°717	·761	·835 ·854	·907	010.1 986.	1.064	80 79
8	.284	468	·581	670	731	778	872	948	1.033	1.112	8
7	.287	474	.290	·681	744	·808 ·822	.888	·967	1.022	1'142	7 6
5	°292	'479 '485	·598 ·605	·691	.756 .767	.834	'904	1,003	1'075	1,186	5
74	*295	'489	612	.709	.777	·846	932	1.014	1,115	1.502	74
3 2	°297	°494 °498	·619	717 725	·787 ·796	·857 ·868	945	1.032	1°129	I '226 I '244	3 2
1	.300	1502	.630	732	*804	877	'957 '968	1.028	1.120	1.500	î
70	.302	.202	.635	739	.812	.886	.979	1.040	1.143	1.546	70
69 8	*304 *305	.208	°640 °644	745 750	·819	·894 ·902	·988 ·997	1.081	1'186	1.304	69 8
7	306	514	·648	755	832	.909	1.006	1,101	1.508	1.317	7
6 5	·307	.219	.652	.760	'837	.016	1,013	1,118	1.518	1.328	6 5
64	,300 ,300	.213	·655 ·658	·764 ·768	·843 ·848	•922 •928	1.020	1,150	1.532	1.339	64
3	.310	`523	.661	772	·852	933	1.033	1.133	1.542	1.359	8
2	.311	·525 ·526	·664 ·666	.776 .779	·856 ·860	*937 *942	1°038	1°139	1°252 1°252	1°367	2
60	.313	528	.668	782	.863	942	1.048	1.120		1.385	60
	101	100	99	98	97	96	95	94	93	92	

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VALUES OF ANNUITIES ON TWO JOINT LIVES.

 $\mathbf{3}_{\bar{2}}^{1}$ per cent.

_					3	y					~
x	20	21	22	23	24	2 5	26	27	28	29	\boldsymbol{x}
10	18.966	18.835	18.698	18.557	18.411	18.360	18'103	17'942	17.776	17.605	10
1	18.902	18.776	18.641	18.205	18.328	18.500	18.024	17.895	17.730	17.261	1
2	18.840	18.713	18.281		18.305	18.124	18.003	17.844		17.212	2
3	18.771	18.647	18.217		18'241	18.096	17.946		17.630	17.465	3
4	18.698	18.275	18.448	18.312	18.177	18.034	17.886	17.733	17.222	17.412	4
15	18.620	18.200	18.374	18.244	18.100	17.968	17.823	17.671	17.212	17.355	15
6	18.537	18.420	18.297	18.169	18.036			17.606	17.452	17.294	6
8	18.450 18.358	18.335	18.1128	18.002	17.959		17.682		17.385	17.161	7 8
9	18.561	18.121	18.036		17.791	17 [.] 744	17.525	17.384	17.314	17.087	9
		· -		17.821		-	1	1			
20	18.129	18'051	17.837		17.603	17.572	17.439	17.301	17.158	1 7.0 10	20
	20	21	17.731	17.619	17.203	17.479 17.380	17.254	17.155	16.985	16.842	2
	91		22	17.210	17.397	17.278	17.124	17.025	16.893	16.752	3.
91		90		23	17.286	17.170	17.049	16.923	16.793	16.657	4
90	73° 772	-817	89		24	17.058	16.940	16.818	16.690	16.222	25
89	814	.863		88	<u> </u>	25	16.826	16.404	16.283	16.453	6
8	855	*9 0 8	'913	1,012	87		26	16.201	16.470	16.343	7
7	.896	953	.962	1.068	1'125	86		27	16.325	16.330	8
6	936	.996	1,028	1.150	1,181	1.545	85		28	16,110	9
5	974	1.039	1.102	1.121	1.536	1,305	1.367	84	00	29	
84	1,015	1.080	1.121	1,551	1,501	1.361	1'431	1,200	83	82	
3	1'048	1'120	1,102	1,560	1.344	1'419	1'494	1.268	1.641	-02	
2	1,083	1,120	1,538	1,319	1.396	1'476	1.222	1.634	1.413	1.490	82
1	1,119	1,196	1.549	1.362	1.446	1.231	1.612	1.699	1.483	1.866	1
80	1.148	1,535	1.318	1.406	1.494	1.284	1.673	1.763	1.852	1'941	80
79	1'178	1.566	1.356	1.448	1.241	1.635	1.729	1.824	1,010	2.013	79
8	1,508	1.508	1,393	1.488	1.282	1.684	1.784	1.884	1.984	2.084	8
7	1.532	1.329	1'427	1.222	1.658	1.432	1.836	1'941	2.047	2.125	7
6	1,501	1,328	1'460	1.263	1.669	1'777	1.886	1,996	2.104	2.518	6
5	1.586	1,386	1,491	1.298	1.408	1.820	1'934	2.049	2.162	2.585	5
74	1.309	1'412	1.20	1,631	1'745	1.861	1.979	2.099	2.55I	2.345	74
3	1,330	1'437	1.248	1,665	1.480	1.000	2.053	2'147	2.274	2'401	8
2 1	1.321	1.460	1.24	1.693	1.813	1'937	2.064	2.193	2.324	2.456	2
70	1.388	1.481	1.233	1.212	1.844 1.873	1.972	2'102	2.536	2.372	2.200	1 70
	1	1.202	ŀ	1.745		2.002	2'139	2.277	2.417	2.229	
69 8	1.404	1.251	1.643	1.770	1,000	2.032	2'174	2,312	2'460	2.607	69
7	I'420 I'434	1.238	1.683	1.4 1.814	1.026	2.064	2.206	2'352	2.201	2.652 2.694	8 7
6	1.448	1.222	1.400	1.833	1 . 920	2.001 5.114	2°237 2°265	2°386 2°418	2.239 2.24	2.734	6
5	1.460	1.284	1.416	1.823	1.993	2'140	2. 503	2'447	2.608	2'771	5
64	1'472	1.204	1.431	1.869	2,013	2,165	5,319	2.475	2.639	2.806	64
3	1.482	1.610	1.745	1.882	2'031	2,183	2'339	2.201	2.668	2.839	3
2	1'492	1.651	1.758	1,000	2.048	5.505	5,361	5.25	2.695	2.869	2
1	1.201	1.631	1.770	1.013	2.063	2'219	2.381	2.248	2.451	2.898	1
60	1.210	1.641	1.481	1,926	2.022	2.536	2.399	2.269	2.744	2.924	60
	91	90	89	88	87	86	85	84	83	82	

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VALUES OF ANNUITIES ON TWO JOINT LIVES.

 $3^{1}_{\bar{2}}$ per cent.

					3	y		Ŧ , T			
x	30	31	32	33	34	35	36	37	38	39	x
10 1	17.429	17.248	17'062 17'024	16.871 16.835	16.675 16.640		16.235	16.025	15.837	15.285	10 1
2	17.342	17.165	16.983	16.492	16.603	16'404	16.501	15.992	15.777	15.226	2
8 4	17'294	17.110	16'892 16'892	16.753	16.219	16.366	16°164 16°125	15.919	15'743	15.24	8 4
15	17'188	17.018	16.841	16.659	16.473	16.380	16.085	15.878	15.669	15.453	15
6 7	17'130	16,901	16'787 16'730	16.22 16.22	16.370		16'037	15.488	15:627	15.413	6 7
8 9	17'002 16'931	16.838	16.668	16'494 16'431	16.313	16.138	15.881	15.439	15.235 15.485	15.326	8 9
20	16.856	16.698	16.234	16.364			15.822	15.630	15.431	15.527	20
1	16'778 16'695	16.622	16.461	16.394	16.020	15.944	15.760	15.240	15'374	15'171	1 2
2 8	16.602	16'542 16'458	16 ·3 84	16.145 16.145	15.975	15.803	15.694 15.624	15.207	15.314		8
4	16.216	16.369	16.514	16.029	15.896	15.726	15.252		15.183	14.988	4
25 6	16.419 16.318	16·276	16.132	15'972 15'882	15.812	15.2646 15.262	15'474 15'394		15.032	14'921	25 6
7	16,103	16.076	15.830	15.786	15.633	15.474	15.308	15.134	14.959	14.774	7 8
8	15'986	15.857	15'722	15.687	15°536		12.152	15.021	14.876	14 [.] 695	9
80	15.862	15'740	15.609	15'472	15.330	15.181	15.027	14.867	14.699	14.526	30
	80	15.618 81	15.491	15.328 15.338	15.104	14'963	14.816		14.204	14'434	1 2
	18	80	32	15.113 88	14.982 14.856		14.203 14.285	14.255	14.400		3 4
81 80	1 '948 2'028	2'114	79		84	14.296	14.462		14.172	14'021	35
79	2,106	3,108	2.580	78	77	85	14.332	14.196	14.024	13 [.] 905	6 7
8	2°183	3,3Q1 3,5 <u>8</u> 1	2°377 2°464	2.472 2.265	2.664	76		14.065 37	13'927	13.654	8
7	3,330	2'439	2.248	2.650	2.761	2.865	<u>75</u>	74	38	13.219	9
5	2.398	2'514	2.629	2.743	2.856	2.966	3.075		73	39	
74 3	2,462 3,462	2.287 2.656	2'708 2'784	2.829 2.811	2°948 3°037	3.160 3.062	3.180 3.180	3°292 3°402	3.219	72	j
2	3,200	2'723 2'787	2.857	3,000	3,155	3'253	3.382	3.208	3.632	3.753	72
70	2.648 2.203	2'848	2,032 3,032	3.130 3.000	3°205	3'342 3'428	3°478 3°570	3.211 3.211	3°743 3°849	3.871 3.882	1 70
69	2.756	5.00¢	3 057	3.508	3`359	3,210	3.659	3.807	3.952	4.092	69
8	2.852 2.852	3,013	3,114	3°274	3,431 3,200	3.288 3.663	3°744 3°825	3.898 3.898	4°051	4.303	8 7
6 5	5,800	3,001	3,558	3,390	3'565	3,734	3.003	4.040	4.536	4.401	6 5
64	2.038	3,121	3.327	3'452 3'505	3.626 3.684	3.862	3°976 4°045	4.120 4.326	4'323 4'405	4°494 4°583	64
3	3013	3,101	3'372	3,554	3.739	3925	4,111	4'297	4.483	4.668	3
2	3047	3,504	3'414	3,042 3,001	3.200	3,081 4,034	4'173 4'231	4'365 4'429	4°557 4°626		2
60	3,100	• .	3,400		3.884	1,021		4.489		4.892	60
	28 2	80	79	78	_ 77	76	75	74	73	72	

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VALUES OF ANNUITIES ON TWO JOINT LIVES.

 3^{1}_{2} PER

					. 3	y					20
x	40	4 I	42	43	44	45	46	47	48	49	x
10	15.384	15.148	14.907	14.660	14.406	14'147				13.021	10
1	15.328	15.124	14.883	14.637		14.127	13.863	13.293		13.036	1
2	15.330	15.097	14.858	14.614		14'106	13.843	13.274		13.019	2
3 4	15.299	15.068	14.831	14.282	14.338	14.082 14.028	13.821	13.221	13.520	13.001	3 4
1 1	15.267	15.037		-	_		13.797				
15	15.531	15.003	14.770	14.229	14.583	14.030		13.207		12.960	15 6
8 7	15'194	14.968	14.735	14.497	14.252	1 3. 001				12.011	7
8	12.110	14.888		14'424		13.036		13'422		12.884	8
9	15.064	14.844	14.618	14.385	14.146	13.900	13.648	13.390	13.156	12.856	9
20	15.012	14.797	14.573	14'343	14'105	13.862	13.612	13.356	1 '	12.825	20
1	14.963	14.748	14.26	14.298		13.821	13.223	13.319	1	12.792	1
2	14.908	14.695	14.475	14.250	14.017	13.778	13'532	13.580		12.757	2
8	14.849	14.639	14.425	14.199		13.233	13.489	13.530	12.983	12.421	3
4	14.788	14.280	14.366	14.146		13.684		13.196	1 1	12.682	4
25	14.723	14.219	14:307	14.089	13.862	13.634	13.392	13.120		12.641	25
6	14.652	14'453	14.245		13.808		13.344	13,105		12.298	6
7	14.283	14.385	14'179	13.968		13.23		13.021		12.22	7 8
8 9	14'507	14'313	14.038	13.833	13.681	13'464		12.941	12,724	12.204	9
					1 -			12.883	12.645	'•'	80
30	14'345	14.157	13.883 13.883	13.461		13.336		12.820		12'401	1
1 2	14.166	13.986	13.799	13.604		13.194	٠ .	12.755	12.524	12.342	2
3	14.060	13.893	13'711	13.250		13.118		12.686		12.222	3
4	13.968	13.796	13.618	13.432		13.032	12.829	12.613	12.390	12.160	4
35	13.861	13.694	13.20	13.338	13.149	12.952	12.748	12.237	12.318	12.001	35
6		13.287	13.417	13.239			12.663	12.455	12.541	12.019	6
7	13.632	13.474	13.309		12.956	12.768		12.340	1	11.945	7
8	13.208	13.355	13.194	13.056		12.668		12.279		11.860	8
9	13.378	13.559	13.074	12.011	12.740	12.262		12.183	_	11.774	9
40	13'242	13.098	12.947	12.789	12.624	12'451	1	12.081	11.886	11.685	40
	40	12.959	12.814	12.661	12.500	12'332		11.860	11.483	11.481	1
	71	41	12 0/3 42	12.283	12.371	12.502	11.013	11.740	` خ ۱	11.372	3
₇₇ ,		70		48	15.080	11.938	11.449	11.613		11.526	4
71 70	3.996 4.112	4.546	69		44	11.792	11.639	11.478		11,133	45
			4:504	68	65	45	11.491	11.336		11.003	6
69 8	4°235 4°348	4'37 I 4'492	4.204 4.633	4.769	67		46	11.187	11.031	10.866	7
7	4.458	4.609	4°757	4,001	5.041	66	6-	47	10.880	10.455	8
6	4.263	4.722		5.039	5.177	5.320	65	64	48	10.240	9
5	4.663	4.830	4'993	5.125	5.307		5.602		63	49	
64	4.759	4'933	5.103	5.270	5.433	5.292	5.746	5.895		62	
3	4.850	5.031	5.500	5.3 83	5.554	5.450	5.882	6.039			
2	4'937	5.134	5.309	5.491	5.669		6.013	6.177	6.336		62
1	5.019	5.513	5.402	5.594	5.779	5.060	6.134	6.310	6.477		1
60	5.097	5.297	5.495	5.691	5.884	6.072	6.522	6.437	6.613	6.481	60
	71	70	69	68	67	66	65	64	63	62	

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VALUES OF ANNUITIES ON TWO JOINT LIVES.

 3^{1}_{2} per cent.

					3	y					
\boldsymbol{x}	50	51	52	53	54	55	56	57	58	59	\boldsymbol{x}
10 1 2	12.764 12.749 12.734	12'471 12'457 12'443	12'174 12'161 12'148	11.872 11.847	11.266 11.255 11.243	11.526 11.536 11.535	10'943 10'934 10'923	10.626 10.618	10.300 10.308	9.987 9.980 9.972	10 1 2
3 4	12.414	12.427	15,119	11.818	11.216	11,510	10,000	10.284	10.521	9 ⁹ 63	3 4
15 6 7 8	12.624 12.623 12.624	12'391 12'370 12'348 12'324	12.098 12.079 12.036	11.802 11.783 11.764 11.743	11.483 11.465 11.446	11'195 11'162 11'144	10.887 10.872 10.856 10.839	10'574 10'560 10'546 10'530	10°259 10°247 10°218	9°942 9°931 9°918 9°904	15 6 7 8
9 20 1 2	12.580 12.520 12.487	12'298 12'271 12'242 12'211	11.030 11.020 11.020	11'720 11'696 11'670 11'643	11'424 11'402 11'352	11'124 11'080 11'056	10.820 10.800 10.779 10.756	10'512 10'494 10'474 10'453	10°185 10°166 10°147	9.889 9.873 9.856 9.838	9 20 1 2
3 4 25	12.452 12.377	12'178 12'143 12'107	11.832 11.866	11.221 11.221	11'324 11'265	11.003 11.030	10'732 10'707 10'681	10'431 10'407 10'382	10.150 10.104 10.150	9.818 9.797 9.776	3 4 25
6 7 8 9	12'336 12'293 12'248 12'201	12.069 12.028 11.986 11.941	11.426 11.424 11.424	11.481 11.444 11.404	11'199 11'164 11'127	10'945 10'880 10'845	10.652 10.592 10.559	10.326 10.328 10.569	10°056 10°030 10°003 9°974	9.753 9.729 9.704 9.677	6 7 8 9
30 1 2 3 4	12.151 12.098 12.043 11.985 11.923	11.894 11.844 11.792 11.737	11.631 11.584 11.535 11.484 11.429	11'362 11'319 11'272 11'224 11'173	11.088 11.047 11.004 10.958 10.910	10.809 10.770 10.730 10.687	10.525 10.489 10.451 10.411	10'237 10'168 10'168 10'092	9°945 9°913 9°881 9°846 9°809	9.649 9.620 9.590 9.557 9.524	30 1 2 3 4
85 6 7 8 9	11.858 11.789 11.717 11.640 11.558	11'618 11'553 11'485 11'412	11'372 11'311 11'246 11'177 11'105	10.868 11.000 11.100 11.110	10'860 10'806 10'749 10'688 10'624	10'595 10'545 10'491 10'434 10'374	10'325 10'278 10'175 10'118	10.020 10.000 9.960 9.857	9.771 9.730 9.687 9.640 9.591	9.488 9.450 9.409 9.367 9.367	35 6 7 8 9
40 1 2 8 4	11'471 11'379 11'280 11'176 11'066	11.252 11.165 11.072 10.973 10.869	11.027 10.944 10.857 10.763 10.664	10'794 10'716 10'634 10'546	10.555 10.482 10.404 10.321 10.232	10'310 10'241 10'168 10'090	10.058 9.994 9.925 9.852 9.774	9.801 9.741 9.677 9.608 9.535	9.539 9.483 9.423 9.359 9.290	9°272 9°220 9°164 9°104 9°040	40 1 2 3 4
45 6 7 8 9	10.949 10.825 10.557 10.411	10.757 10.640 10.383 10.344	10.558 10.446 10.328 10.202 10.070	10'352 10'246 10'133 10'014 9'888	9.698 9.931 0.038 10.038	9.918 9.823 9.722 9.615 9.502	9.690 9.601 9.406 9.406	9°457 9°373 9°284 9°189 9 °088	9°217 9°139 9°055 8°966 8°871	8.972 8.899 8.821 8.737 8.648	45 6 7 8 9
50	50 61 6:70 F	9'944 51 60	9 [.] 930 9 [.] 783 9 [.] 628	9.754 9.614 9.467 9.312	9'572 9'438 9'297 9'149 8'994	9.382 9.255 9.121 8.980 8.831	9·185 9·064 8·937 8·803 8·662	8·980 8·867 8·746 8·619 8·485	8·770 8·663 8·549 8·429 8·302	8.553 8.452 8.345 8.232 8.112	50 1 2 3 4
61 60	6·795 6·945	7.103				8.676	8·514 8·359	8·344 8·197 8·042	8·168 8·028 7·880 7·727	7.985 7.852 7.712 7.566 7.413	55 6 7 8
	бī	60	52	53	54	55	·56	57	58	59	

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VALUES OF ANNUITIES ON TWO JOINT LIVES.

31 PER 22 CENT.

					3	y					
x	60	61	62	63	64	65	66	67	68	69	x
10	9.665	9'342	9.018	8.694	8.371	8.049	7.729	7.411	7.096	6.784	10
1	9.658	9.336	9.013	8.689	8.366	8.045	7.725	7.408	7.093	6.782	1
2	9.651	9.329	9.006	8.684	8.361	8.040	7.721	7'404	7.089	6.778	2
3	9.643	9.321	8.999	8.677	8.356	8.035	7.716	7.400	7.086	6.775	3
4	9.634	9.313	8.992	8.670	8.349	8.039	7.711	7'395	7.081	6.771	4
15	9.624	9.304	8.983	8.662	8.342	8.023	7'705	7:389	7.076	6.766	15
6	9.613	9.294	8.974	8.654	8.334	8.019	7.699	7.384	7.071	6.762	6
7	9.601	9.283	8 964	8.645	8.326	8.008	7.692	7.377	7.065	6.757	7
8	9.288	9.271	8.953	8.635	8.317	7'999	7.684	7:370	7.059	6.751	8
9	9.574	9.258	8'941	8.624	8.306	7.990	7.675	7.362	7.052	6.744	9
20	9.229	9.344	8.928	8.612	8.296	7:980	7.666	7.354	7.044	6.737	20
1	9.544	9.229	8.915	8.599	8.284	7.970	7.656	7'345	7.036	6.730	1
2	9.526	9.214	8.900	8.586	8.271	7.958	7.646	7'335	7.027	6.722	2
8	9.509	9.197	8.884	8.571	8.258	7.946	7.634	7'325	7.018	6.713	3
4	9.489	9.179	8.868	8.556	8.244	7.933	7.622	7'314	7:007	6.704	4
25	9.469	0.191	8.851	8.240	8.229	7.919	7.610	7:302	6.997	6.694	25
6	9.448	9.141	8.832	8.23	8.214	7.904	7.596	7.290	6.986	6 684	6
7	9.425	9.150	8.813	8.202	8.197	7 889	7.283	7'277	6.974	6.673	7
8	9.402	9.098	8.793	8.486	8.180	7.873	7.568	7.264	6.961	6.665	8
9	9.377	9.075	8.771	8.467	8.163	7.857	7.552	7.249	6.949	6.620	9
30	9.352	9.021	8.749	8.446	8.143	7.839	7.536	7'235	6.935	6.637	30
1	9.325	9.026	8.726	8.425	8.133	7.821	7.520	7.219	6.921	6.625	1
2	9.296	9.000	8.702	8.402	8.103	7.802	7.202	7.203	6.906	6.611	2
8	9.266	8.972	8.676	8.379	8.080	7.782	7.484	7.186	6.891	6.292	3
4	9.234	8.943	8.649	8.354	8.057	7.761	7.464	7.169	6.874	6.285	4
35	9.301	8.912	8.621	8.327	8.033	7.738	7.444	7.120	6.857	6.266	35
6	9.166	8.879	8.590	8.300	8.007	7.715	7.422	7'130	6.839	6.220	6
7	9.129	8.845	8.558	8.270	7.980	7.690	7'399	7.109	6.830	6.233	7
8	9.089	8.808	8.524	8.239	7.951	7.663	7'375	7.087	6.800	6.214	8
9	9.047	8.769	8.488	8.302	7.921	7.635	7'349	7.063	6.778	6.494	9
40	0.001	8.727	8.449	8.169	7.888	7.605	7.321	7:037	6.755	6.473	40
1	8.953	8.682	8.408	8.131	7.852	7.572	7.291	7.010	6.730	6.451	1
2	8.901	8.634	8.363	8.090	7.814	7.537	7.260	6'981	6.703	6.426	2
8	8.846	8.282	8.316	8.046	7.774	7.200	7.225	6.920	6.675	6.400	3
4	8.786	8.527	8.264	7'999	7.730	7.460	7.188	6.916	6.644	6.372	4
45	8.722	8.468	8.310	7.948	7.684	7.417	7'149	6.880	6.611	6.342	45
6	8.654	8.402	8.121	7.893	7.633	7.371	7.106	6.841	6.575	6.309	6
7	8.281	8.336	8.088	7.835	7.579	7.321	7.060	6.799	6.236	6.274	7
8	8.203	8.264	8.020	7.772	7.21	7.267	7.011	6.753	6.492	6.536	8
9	8.420	8.186	7'947	7.705	7.459	7.209	6.958	6.704	6.420	6.192	9
50	8.331	8.103	7.870	7.633	7.392	7.148	6.901	6.652	6.403	6.121	50
1	8.536	8.014	7.787	7.556	7.320	7.082	6.840	6.296	6.320	6.104	1
2	8.132	7.920	7.699	7.474	7.244	7.011	6.774	6.236	6.392	6.023	2
8	8.039	7.820	7.606	7.386	7.163	6.935	6.404	6.471	6.536	5.998	3
4	7.916	7.714	7.206	7.293	7.076	6.855	6.630	6.403	6.171	5'939	4
55	7.796	7.601	7.401	7.195	6.984	6.769	6.220	6.328	6.103	5.877	55
6	7.671	7.483	7.289	7.090	6.886	6.677	6.465	6.549	6.031	5.810	6
7	7.238	7.358	7'171	6.979	6.782	6.281	6.372	6.166	5'953	5.738	7
8	7.399	7.226	7'047	6.863	6.673	6.478	6.279	6.077	5.871	5.662	8
9	7'254	7.088	6.917	6.740	6.228	6.370	6.149	5.983	5.483	5.281	9
	60	61	62	63	64	65	66	67	68	69	

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VALUES OF ANNUITIES ON TWO JOINT LIVES.

 3^{1}_{2} per cent.

10 6.7 1 6.7 2 6.7 3 6.7 4 6.7 15 6.7 6 6.7 7 6.7 8 6.7 9 6.7	474 471 468 465 461 456 452 446 440	71 6·173 6·171 6·169 6·166 6·163 6·155 6·151 6·146 6·141 6·135	5.875 5.873 5.871 5.868 5.866 5.863 5.859 5.855 5.851 5.846	73 5.582 5.581 5.579 5.576 5.574 5.571 5.568 5.564	74 5'295 5'294 5'292 5'290 5'288 5'285 5'283	75 5.015 5.013 5.010 5.008 5.006	76 4.741 4.740 4.738 4.737 4.735	77 4.474 4.473 4.472 4.470 4.469	78 4.215 4.214 4.213 4.211 4.210	79 3.963 3.962 3.960 3.959	10 1 2 3
1 6.2 2 6.2 3 6.2 4 6.2 15 6.2 7 6.2 8 6.2 9 6.2	474 471 468 465 461 456 452 446 440 434 427	6.171 6.169 6.166 6.163 6.159 6.155 6.141 6.141	5.873 5.871 5.868 5.866 5.863 5.859 5.855 5.851	5.581 5.579 5.576 5.574 5.571 5.568 5.564	5°294 5°292 5°288 5°285	5.013 2.013 2.013	4.740 4.738 4.737 4.735	4'473 4'472 4'470	4.511 4.513 4.511	3.960 3.961	1 2
1 6.2 2 6.2 3 6.2 4 6.2 15 6.2 7 6.2 8 6.2 9 6.2	474 471 468 465 461 456 452 446 440 434 427	6.171 6.169 6.166 6.163 6.159 6.155 6.141 6.141	5.873 5.871 5.868 5.866 5.863 5.859 5.855 5.851	5.581 5.579 5.576 5.574 5.571 5.568 5.564	5°292 5°290 5°288 5°285	5.008 2.008	4.738 4.737 4.735	4.472 4.470	4'211 4'211	3.960 3.961	2
3 6.2 4 6.2 15 6.2 6 6.2 7 6.2 8 6.2 9 6.2	468 465 461 456 452 446 440 434 427	6.166 6.163 6.159 6.151 6.146 6.141	5.868 5.866 5.863 5.859 5.855 5.855	5.576 5.574 5.571 5.568 5.564	5°290 5°288 5°285	5.008 2.008	4 [.] 737 4 [.] 735	4.470	4.311	3. 960	
4 6.4 15 6.4 6 6.4 7 6.4 8 6.4 9 6.4	465 461 456 452 446 440 434 427	6.163 6.159 6.151 6.141 6.141 6.141	5.866 5.863 5.859 5.855 5.851	5.574 5.571 5.568 5.564	5°288 5°285	5.008	4.735			3.960	8
15 6.2 6 6.2 7 6.2 8 6.2 9 6.2	461 456 452 446 440 434 427	6.132 6.132 6.141 6.141 6.141	5.863 5.859 5.855 5.851	5.574 5.571 5.568 5.564	5.285			4.469	4.310		
6 6.7 7 6.7 8 6.7 9 6.7	456 452 446 440 434 427	6.132 6.141 6.146 6.141 6.132	5.859 5.855 5.851	5.568 5.564	5°285 5°283	5.006				U / J / J	4
6 6.7 7 6.7 8 6.7 9 6.7	456 452 446 440 434 427	6.132 6.141 6.146 6.141 6.132	5.859 5.855 5.851	5.568 5.564	5.283		4.733	4.467	4.208	3.958	15
7 6.7 8 6.7 9 6.7	452 446 440 434 427	6.132 6.141 6.141 6.132	5.851 5.851	5.264		5.003	4.731	4.465	4.502	3.956	6
9 6.7	446 440 434 427	6.141 6.141 6.135	5.851		5'279	2.001	4.728	4.463	4.202	3.954	7
9 6.4	440 434 427	6.132		5.260	5.276	4.997	4.725	4.460	4.503	3.952	8
	434 427	6.132		5.226	5.272	4.994	4.722	4.458	4.500	3.950	9
20 1 0 4	427		5.841	2.221	5.268	4.990	4.719	4'455	4.192	3.948	20
		6.139	5.835	5.246	5.263	4.986	4.715	4.451 4.451	4'194		1
		6.155	5.829		5.258	4.982	4.711	4.448		3.945	2
		6.112	5.823	5.241					4'191 4'188	3.942	3
		6.102	5.816	5.232	5°253 5°247	4.977	4'707 4'702	4'444 4'440	4.184	3.036	4
		_	- 1	5.25		4'972	_			3.936	ı
	395	6.099	5.808	5.255	5.541	4.966	4.697	4.435	4.180	3.935	25
		6.001	5.800	5.212	5.532	4.960	4.692	4.431	4.176	3.929	6
	· .	6.085	5.792	5.202	5.558	4'954	4.687	4'426	4'172	3.922	7
		6.073	5.784	5.200	5.551	4.948	4.681	4.421	4'167	3.921	8
		6.063	5.775	5.492	5.514	4'941	4.675	4.412	4.165	3.916	9
80 6%		6.025	5.765	5.483	5.506	4'934	4.669	4'410	4.124	3.912	30
1 6.3	331	6.045	5.756	5'474	5.198	4'927	4.662	4'404	4.12	3.907	1
		6.030	5'745	5.462	2,130	4.920	4.655	4.398	4.146	3.003	2
	306	6.018	5.735	5.455	2.181	4.912	4.648	4.391	4.141	3.897	8
4 6.	293	6.006	5.724	5'445	5.125	4.903	4.641	4.382	4'135	3.892	4
85 6.	278	5.993	5.415	5.435	5.165	4.895	4.633	4.378	4'128	3.886	35
	- 1	5.979	5.400	5.423	5.125	4.886	4.625	4.370	4'122	3.880	6
	- 1	5.965	5.686	5.412	5.145	4.876	4.616	4.362	4.112	3.874	7
		5.950	5.673	5.399	5.130	4.866	4.607	4.354	4.108	3.868	8
9 6.	213	5.934	5.658	5.386	2.118	4.855	4.598	4.346	4'100	3.861	9
		5.016	5.642	5.371		4.844	4.284	4.336	4.003	3.823	40
	173	5.898	5.625	5.356	5.102 2.102	4.831	4.576	4.326	4.083	3.842	1
	151	5.878	5.607	5.340	5.042	4.818	4.264	4.316	4.023	3.837	2
	127	5.856	5.288	5.322	2.001	4.804	4.221	4.304	4.063	3.828	3
		5.833	5.264	2.303	5.044	4.788	4.238	4.292	4.023	3.818	4
			1		•					-	
	074	5.808	5.244	5.583	5.056	4.772	4.23	4.279	4.040	3.807	45
		5.481	5.20	5.561	5.002	4.754	4.202	4'264	4.027	3.796	6
	012	5.752	5.493	5.237	4'984	4.735	4.489	4'249	4.013	3'784	7
	978	5.720	5.465	5.511	4.022	4.714	4.470	4.535	3.998	3.770	8
	940	5.686	5.434	5.183	4.935	4.691	4.450	4.514	3.982	3.755	_
		5.620	5.400	2.123	4.908	4.666	4.428	4'194	3.964	3.740	50
	857	5.610	5.362	5.151	4.879	4.640	4'404	4.145	3°945	3.722	1
	810	5.268	5.326	5.082	4.847	4.611	4.378	4'149	3'924	3.704	2
	760	5.255	5.284	5.047	4.813	4.280	4.320	4'124	3.902	3.684	8
	706	5'473	5.539	5.002	4.776	4.246	4.350	4.092	3.877	3.662	4
		5.420	2.191	4.963	4.736	4.211	4.588	4.064	3.821	3.638	55
		5.364	5'140	4.016	4.693	4.472	4'252	4.036	3.823	3.613	6
		5.303	5.084	4.862	4.647	4.430	4.512	4'002	3.792	3.282	7
	451	5.238	5.022	4811	4.598	4.385	4'174	3.965	3.759	3.226	8
9 5	376	5.140	4.962	4'753	4.242	4'337	4.131	3.926	3.423	3.24	9
	70	71	72	72			76	77	78	79	
	,,,	/1	72	73	74	75	/0	11	70	19	

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VALUES OF ANNUITIES ON TWO JOINT LIVES.

 3^{1}_{2} per cent.

					3	/					· ·
x	80	81	82	83	84	85	86	87	88	89	x
10	3.720	3'484	3'257	3.039	2.829	2.629	2.437	2.254	2.080	1.012	10
1	3'719.	3.483	3'257	3.039	2.829	2.628	2.437	2,524	2.080	1,912	1
2	3.418	3.483	3.256	3.038	2.829	2.628	2,437	2.54	2.080	1.912	2
3	3.412	3.482	3.525	3.032	2.828	2.627	2'436	2.523	2.080	1.912	8
4	3'716	3.481	3.525	3.032	2.827	2.627	2.436	2,523	2.079	1,014	4
15	3.412	3.480	3'254	3.036	2.827	2.626	2'435	2.52	2.029	1'914	15
6	3.713	3'479	3.223	3.032	2.826	2.626	2'434	.2'252	2.048	1'914	6
7	3.712	3.477	3.521	3.034	2.825	2.622	2.434	5.521	2.078	1.013	7
8	3.410	3.476	3.520	3.033	2.824	2.624	2'433	2.50	2'077	1.913	8
9	3.408	3'474	3'249	3,035	2.823	2623	2.432	2.520	2.077	1,015	9
20	3.706	3'472	3'247	3.030	2.822	2.622	2'431	2.549	2.076	1,911	20
1	3.704	3.470	3.242	3.028	2.820	2.621	2.430	2*248	2.072	1,011	1
2	3.701	3.468	3.543	3.052	2.819	2.619	2.429	2.242	2.074	1,010	2
3	3.699	3.466	3.541	3.052	2.817	5.618	2.428	2.346	2.023	1.000	8
4	3.696	3.463	3.539	3.053	2.812	2.619	2.426	2,542	2.025	1.008	4
25	3.692	3.460	3.236	3.051	2.813	2.614	2.425	2.543	2.071	1.907	25
6	3.689	3.457	3'234	3.018	2.811	2.613	2.423	2'242	2.070	1,006	в
7	3.686	3.454	3,531	3.016	2.809	2.611	2'421	2.540	2.068	1.002	7
8	3.682	3.451	3.558	3.013	2.807	2.609	2'420	2.539	2.062	1'904	8
9	3.678	3.447	3.55	3.011	2.804	2.607	2.418	2.532	2.066	1,003	9
30	3.674	3.444	3.555	3.008	2.802	2.604	2.416	2.532	2.064	1,001	30
1	3.670	3.440	3.518	3.002	2.799	2.603	2.414	2'234	2.063	1,000	1
2	3.666	3.436	3.512	3.002	2.796	2.600	2'412	2.535	2.001	1.898	2
3	3.661	3'432	3.511	2.999	2.794	2.2597	2'410	2.530	2.020	1.897	3
4	3.656	3.428	3.508	2.995	2.791	2.292	2.407	2.558	2.028	1.892	4
35	3.621	3'423	3.504	2.992	2.788	2.265	2.402	2.556	2.026	1.894	35
6	3.646	3.419	3.199	2.988	2.784	2.289	2.402	2'224	2.024	1.892	6
7	3.640	3.414	3.192	2.984	2.781	2.286	2.400	2,331	2.025	1.890	7
8	3.635	3.409	3.191	2.980	2.777	2.283	2.397	2.510	2.020	1.889	8
9	3.628	3.403	3.186	2.976	2.774	2.280	2.394	2,519	2'047	1.887	9
40	3.622	3.397	3.181	2.071	2.770	2.276	2.391	2'214	2.045	1.885	40
l	3.612	3.391	3.172	2.966	2.765	2.272	2.388	2'211	2.043	1.885	ī
2	3.607	3.382	3.169	2.961	2.761	2.268	2.384	2.508	2.040	1.880	2
3	3.259	3.377	3.163	2.956	2.756	2.264	2.380	2.304	2.037	1.878	3
4	3.291	3.370	3.126	2.950	2.751	2.229	2.376	2.301	2.034	1.875	4
45	3.281	3.361	3.149	2.043	2.745	2.224	2.372	2'197	2.030	1.872	45
8	3.221	3'352	3.141	2.936	2.739	2.249	2.367	2,103	2.022	1.869	6
7	3.260	3.342	3.135	5.058	2.732	2.243	2.362	5.188	2.053	1.865	7
8	3.248	3.332	3.155	2,050	2.722	2.23	2.356	2'183	2.010	1.861	8
9	3.232	3.320	3.115	5,011	2.717	2.23	2.320	2.178	2.014	1.857	9
50	3.251	3.308	3,101	2.001	2.708	2.255	2'344	2.172	2.009	1.853	50
ĭ	3.505	3'294	3.089	2.891	2.699	2.214	2.336	2.166	2.003	1.848	1
2	3.489	3.54	3.026	2.879	2.688	2.202	2.358	2.120	1,002	1.843	2
3	3'471	3.564	3.065	2.867	2.677	2.495	2.320	2.121	1,001	1.837	3
4	3.452	3.546	3.042	2.853	2.665	2.484	2.311	2'143	1.984	1.831	4
55	3.431	3.558	3.030	2.838	2.625	2.473	2.300	2'134	1.976	1.824	55
8	3.408	3.502	3.015	2.823	2.638	2.460	2.589	2,152	1.967	1.817	В
7	3.383	3.182	2.992	2.802	2.623	2'447	2.548	2'114	1.928	1.809	7
8	3.357	3,165	2.971	2.786	2.606	2.432	2.562	5.103	1.948	1.800	8
9	3.328	3.136	2.949	2.766	2.288	2.416	2.521	2.001	1.938	1.791	9
	80	81	82	83	84	85	86	87	88	89	
	80	91	02	3	- 54	1 22	- 30	3/	- 36	٠,	

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VALUES OF ANNUITIES ON TWO JOINT LIVES.

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1 1758 1611 1470 1342 1216 1104 1994 1904 816 694 545 32 32 1758 1611 1470 1341 1216 17104 1994 1904 816 694 545 32 32 32 32 32 32 32 3	x	90	91	92	93	94	95	96	97	98	99	100	IOI	\boldsymbol{x}
1 1758 1611 1470 1342 1216 1104 1994 1904 816 694 545 32 32 1758 1611 1470 1341 1216 17104 1994 1904 816 694 545 32 32 32 32 32 32 32 3	10	1'758	1.911	1'470	1'342	1.516	1.102	'004	'004	.816	.604	.545	'321	10
28									- 1	.816			.321	1
8									- 1				321	2
1						!	1 1		•				321	3
15			1 -			1								4
6 1757 1610 1469 1341 1215 1104 993 904 815 694 545 32 32 1756 1609 1469 1340 1215 1104 993 904 815 694 545 32 32 1755 1609 1468 1340 1214 1103 993 903 815 694 545 32 32 1755 1608 1468 1340 1214 1103 993 903 815 694 545 32 32 1755 1608 1468 1340 1214 1103 993 903 815 694 545 32 32 1753 1607 1467 1339 1214 1103 992 903 814 693 544 32 33 1753 1607 1466 1338 1212 1102 992 903 814 693 544 32 33 1752 1606 1466 1338 1212 1102 991 902 814 693 544 32 33 1752 1606 1464 1337 1211 1101 991 902 814 693 544 32 33 1748 1603 1464 1337 1211 1101 991 902 814 693 544 32 33 1748 1603 1463 1335 1210 1100 990 901 813 692 544 32 33 1741 1602 1466 1338 1221 1100 990 901 813 692 544 32 33 1741 1602 1461 1334 1209 1709 989 900 813 692 544 32 33 1741 1599 1459 1333 1208 1098 988 899 812 691 543 33 1744 1599 1453 1331 1207 1097 987 898 811 691 543 33 1741 1596 1457 1330 1205 1006 987 898 811 691 543 33 1720 1709 987 898 811 691 543 33 1720 1709 987 898 811 691 543 33 1732 1737 17531 1754 1755 1750 1455 1329 1720 1709 987 898 811 691 543 33 1732 1737 1737 17531 1454 1332 1720 1709 987 898 811 691 543 33 1732 1737 1737 17531 1453 1331 1207 1709 987 898 811 691 543 33 1732 1753 1753 1754 1745 1754 1755 1754 1745 1757 17					_		1 1		- '				-	
7 1756			_		, -		1 1		904	815			.331	15
8 1756 1609 1468 1340 1214 1103 993 904 815 694 545 32 20 1755 1608 1468 1340 1214 1103 993 903 815 694 545 32 21 1753 1607 1467 1339 1213 1102 992 903 815 694 545 32 21 1753 1607 1467 1339 1213 1102 992 903 815 694 545 32 3 1753 1607 1466 1338 1212 1102 992 903 814 693 544 32 4 1752 1606 1466 1338 1212 1102 991 902 814 693 544 32 36 1751 1605 1465 1337 1212 1101 991 902 814 693 544 32 86 1751 1605 1465 1337 1212 1101 991 902 814 693 544 32 87 1749 1604 1464 1337 1211 1101 991 902 814 693 544 32 9 1747 1602 1463 1335 1210 1100 990 901 813 692 544 32 9 1747 1602 1463 1335 1210 1100 990 901 813 692 544 32 9 1747 1602 1466 1334 1220 1100 990 901 813 692 544 32 1 1745 1600 1461 1334 1209 1909 989 900 813 692 544 32 1 1744 1599 1459 1332 1208 1098 988 990 812 691 543 32 1 1744 1599 1459 1332 1208 1098 988 990 812 691 543 32 1 1744 1595 1455 1330 1205 1096 987 888 810 690 542 33 1 1742 1598 1455 1330 1205 1096 987 898 812 691 543 32 3 1742 1598 1455 1330 1205 1096 987 898 810 690 542 33 1 1733 1590 1455 1330 1205 1096 987 898 810 690 542 33 1 1733 1590 1455 1330 1205 1096 984 896 899 689 542 33 1 1733 1595 1456 1330 1205 1096 986 897 810 690 542 33 1 1733 1595 1456 1330 1205 1096 987 898 810 690 542 33 1 1733 1595 1456 1330 1205 1099 981 898 810 690 542 33 1 1733 1595 1456 1330 1205 1099 981 898 800 689 541 31 1 1730 1587 1449 1323 1720 1099 981 894 896 689 541 31 1 1730 1587 1449 1323 1720 1099 981 893 806 687 540 31 1 1730 1587 1449 1323 1720 1099 981 893 806 687 540 31 1 1730 1587 1449 1320 1795 1085 980 892 806 687 540 31 1 1730 1587 1449 1320 1795 1085 987 889 806 687 540 31 1 1730 1587 1449 1320 1795 1085 988 892 806 687 540 31 1 1730 1587 1449 1320 1795 1085 988 892 806 687 540 31 1 1730 1587 1449 1320 1795 1085 988 892 806 687 540 31 1 1700 1561 1427 1304 1785 1097 992 884 896 899 689 541 31 1 1700 1561 1427 1304 1785 1096 988 882 798 800 688 531 31 1 1700 1561 1427 1304 1785 1006 995 997 887 897 809 688 533 33 33 1790 1785 1797 970 884 807 688 533 33 33 1790 1785 1797 970 884 807 688 533 33 33 1790 1785 1799					1,341	1,512	1,104	'993	904	.812		545	321	6
9 1'755 1'609 1'468 1'340 1'214 1'103 993 903 815 694 545 32 1 1'755 1'608 1'468 1'340 1'214 1'103 993 903 815 694 545 32 2 1'755 1'608 1'467 1'339 1'214 1'103 992 903 815 694 545 32 3 1'753 1'607 1'466 1'338 1'213 1'102 992 903 814 693 544 32 8 1'755 1'606 1'466 1'338 1'212 1'102 992 903 814 693 544 32 8 1'751 1'605 1'466 1'338 1'212 1'102 991 902 814 693 544 32 8 1'751 1'605 1'466 1'337 1'211 1'101 991 902 814 693 544 32 7 1'749 1'604 1'404 1'337 1'211 1'101 991 902 814 693 544 32 8 1'748 1'603 1'463 1'335 1'210 1'100 990 901 813 692 544 32 9 1'747 1'602 1'402 1'335 1'210 1'100 990 901 813 692 544 32 8 1'748 1'603 1'463 1'335 1'210 1'100 990 901 813 692 544 32 8 1'748 1'603 1'461 1'334 1'209 1'099 989 900 813 692 544 32 30 1'746 1'601 1'461 1'334 1'209 1'099 989 900 812 691 543 32 1 1'744 1'599 1'459 1'335 1'208 1'098 988 899 812 691 543 32 1 1'744 1'595 1'455 1'330 1'208 1'098 988 899 812 691 543 32 1 1'744 1'595 1'455 1'330 1'206 1'096 986 898 810 690 542 31 8 1'738 1'595 1'455 1'339 1'205 1'095 986 898 810 690 542 31 8 1'738 1'595 1'455 1'339 1'205 1'095 986 898 810 690 542 31 8 1'738 1'595 1'455 1'339 1'205 1'095 986 898 810 690 542 31 8 1'738 1'595 1'455 1'339 1'205 1'095 986 898 810 690 542 31 8 1'738 1'595 1'455 1'339 1'205 1'095 986 898 810 690 542 31 8 1'738 1'595 1'455 1'339 1'205 1'095 986 898 810 690 542 31 8 1'738 1'595 1'455 1'339 1'205 1'095 986 898 810 690 542 31 8 1'738 1'595 1'455 1'339 1'205 1'095 986 898 810 690 542 31 8 1'735 1'595 1'455 1'330 1'205 1'095 986 898 810 690 542 31 8 1'735 1'595 1'455 1'331 1'100 1'092 983 895 806 688 541 31 1 1'730 1'587 1'440 1'332 1'205 1'093 981 893 806 687 540 31 1 1'700 1'561 1'447 1'324 1'105 1'092 983 895 806 688 541 31 1 1'730 1'587 1'440 1'337 1'105 1'092 983 895 806 688 541 31 1 1'730 1'587 1'440 1'337 1'105 1'092 983 895 806 688 541 31 1 1'730 1'587 1'440 1'315 1'195 1'096 981 893 806 687 540 31 1 1'700 1'561 1'440 1'315 1'195 1'096 981 893 806 687 540 31 1 1'700 1'561 1'440 1'315 1'100 1'092 982 894 807 688 533 31 1 1'700 1'561 1'440 1'315 1'195	4 -	1.756			1.340	1.512		.993	'904	.815	694	·545	.321	7
20 1755 1668 1468 1340 1214 1103 993 903 815 694 545 32 1753 1667 1467 1339 1214 1102 992 903 815 694 545 32 1753 1667 1466 1338 1212 1102 992 903 814 693 544 32 4 1752 1666 1466 1338 1212 1102 991 902 814 693 544 32 6 1755 1665 1465 1338 1212 1102 991 902 814 693 544 32 6 1755 1665 1465 1337 1212 1102 991 902 814 693 544 32 7 1749 1664 1464 1337 1211 1100 991 902 814 693 544 32 7 1749 1664 1464 1337 1211 1100 991 902 814 693 544 32 8 1748 1603 1463 1335 1210 1100 990 901 813 692 544 32 8 1748 1603 1463 1335 1210 1100 990 901 813 692 544 32 8 1744 1599 1450 1333 1208 1099 989 900 813 692 544 32 8 1744 1599 1450 1333 1208 1098 989 900 812 692 543 32 1 1744 1599 1450 1333 1208 1098 988 899 812 691 543 32 1 1744 1599 1455 1332 1205 1096 987 898 811 691 543 32 1744 1599 1455 1332 1205 1096 987 898 811 691 543 32 1744 1599 1455 1332 1205 1096 987 898 811 691 543 32 1744 1759 1455 1332 1205 1096 987 898 811 691 543 32 1744 1759 1455 1332 1205 1096 987 898 811 691 543 32 1745 1733 1750 1455 1733 17205 1095 986 897 810 690 542 33 1733 1750 1455 1733 17205 1095 986 897 810 690 542 33 1733 1750 1455 1733 17205 1095 986 897 810 690 542 33 1733 1750 1455 1733 17205 1095 986 897 810 690 542 33 1733 1750 1455 1732 17205 1095 986 897 810 690 542 33 1733 1750 1455 1732 17205 1095 986 897 810 690 542 33 1733 1750 1455 1732 17205 1095 986 897 810 690 542 33 1733 1750 1455 1732 17205 1095 988 899 806 889 541 31 1733 1750 1455 1732 17205 1095 988 899 806 688 541 31 1733 1758 1444 1732 1199 1090 981 893 806 687 540 31 1730 1758 1744 1730 1755 1744 1735 1759 1744 1730 1795 1086 979 886 899 806 687 540 31 1730 1758 1744 1730 1795 1086 979 886 892 806 687 540 31 1700 1756 1744 1730 1730 1758 1089 1788 1089 981 893 806 687 530 31 1700 1756 1744 1730 1730 1758 1099 988 893 806 687 540 31 1700 1756 1744 1730 1730 1758 1099 989 805 802 806 687 540 31 1700 1756 1744 1730 1730 1758 1099 989 805 802 806 687 540 31 1700 1756 1744 1730 1730 1735 1700 1700 1700 1700 1700 1700 1700 170		1.756			1,340	1.512	1,103	'993	'904	.812	694	545	.321	8
1 1754 1608 1467 1339 1214 1103 992 993 815 694 545 328 1753 1607 1466 1338 1212 1102 992 993 814 693 544 328 1753 1607 1466 1338 1212 1102 991 992 814 693 544 328 1753 1607 1466 1338 1212 1102 991 992 814 693 544 328 1753 1607 1466 1337 1212 1101 991 992 814 693 544 328 1753 1607 1465 1337 1211 1101 991 992 814 693 544 328 1748 1603 1463 1335 1210 1100 990 991 813 692 544 328 1748 1603 1462 1335 1210 1100 990 991 813 692 544 328 1744 1599 1459 1332 1208 1098 988 899 900 812 692 544 328 1744 1596 1457 1330 1205 1095 986 898 811 691 543 328 1742 1598 1458 1331 1207 1097 987 898 811 691 543 328 1744 1599 1455 1330 1205 1095 986 898 810 690 542 338 1742 1598 1455 1330 1205 1095 986 897 809 812 691 543 328 1738 1595 1455 1330 1205 1095 986 897 809 690 542 338 1733 1590 1453 1328 1202 1094 985 897 809 690 542 338 1733 1590 1453 1328 1094 1094 985 897 809 690 542 338 1732 1758 1746 1332 1195 1095 981 895 806 687 540 338 1732 1758 1746 1333 1200 1091 982 894 807 688 541 338 1732 1758 1746 1333 1200 1091 982 894 807 688 541 338 1732 1758 1746 1333 1700 1094 981 893 806 687 540 338 1732 1758 1746 1733 1758 1746 1733 1758 1746 1733 1758 1746 1733 1758 1746 1733 1758 1746 1735	9	1.755	1.609	1.468	1,340	1'214	1,103	.993	.903	.812	.694	545	.351	9
1 1754 1608 1467 1339 1214 1103 992 903 815 694 545 32 1753 1607 1466 1338 1213 1102 992 903 814 693 544 32 81 753 1607 1466 1338 1212 1102 991 902 814 693 544 32 81 753 1607 1466 1338 1212 1102 991 902 814 693 544 32 81 753 1607 1466 1338 1212 1102 991 902 814 693 544 32 81 753 1607 1466 1338 1212 1102 991 902 814 693 544 32 81 753 1607 1465 1337 1211 1101 991 902 814 693 544 32 81 753 1607 1465 1337 1211 1100 990 901 813 692 544 32 81 748 1603 1463 1335 1210 1100 990 901 813 692 544 32 9 1747 1602 1462 1335 1210 1100 990 901 813 692 544 32 9 1747 1602 1462 1335 1210 1100 990 901 813 692 544 32 9 1747 1602 1462 1335 1210 1100 990 901 813 692 544 32 9 1744 1599 1459 1332 1208 1098 988 899 900 812 692 543 32 1744 1599 1459 1332 1208 1098 988 899 812 691 543 32 1744 1599 1459 1332 1208 1098 988 899 812 691 543 32 1744 1596 1457 1330 1205 1095 987 898 811 691 543 32 1744 17596 1457 1330 1205 1095 986 897 898 811 691 543 32 1744 17596 1457 1330 1205 1095 986 898 810 690 542 33 61738 1759 1455 1329 1205 1095 986 897 809 690 542 31 8 1733 1590 1453 1321 1203 1093 984 896 809 689 542 31 8 1733 1590 1453 1321 1203 1093 981 896 809 689 542 31 1773 1553 1446 1320 1109 1090 981 894 807 688 541 31 1773 1558 1440 1332 1109 1090 981 894 807 688 541 31 1773 1558 1440 1332 1109 1090 981 894 807 688 541 31 1773 1558 1440 1335 1193 1085 977 890 804 685 539 31 1772 1554 1442 1317 1195 1086 979 891 803 806 687 540 31 1770 1554 1442 1317 1195 1086 973 887 802 684 536 536 33 1700 1551 1442 1317 1195 1086 973 887 802 684 538 33 1100 1704 1564 1433 1309 1188 1007 972 885 800 682 537 31 1700 1561 1477 1435 1311 1190 1085 1085 977 800 682 537 31 1700 1561 1477 1435 1311 1190 1085 1085 977 800 682 537 31 1100 1561 1477 1435 1311 1190 1085 1085 977 800 682 537 31 1100 1561 1477 1435 131 1190 1085 1085 977 800 682 537 31 1100 1085 1568 1446 1331 1410 1290 1172 1067 962 877 793 677 533 31 1600 1553 1440 1285 1164 1006 973 887 890 682 537 33 31 1600 1553 1440 1285 1164 1006 973 887 890 674 533 33 1400 1285 1168 1067 979 985 877 799 687 535 3	20	1.455	1.608	1.468	1.340	1.214	1,103	.003	.003	.815	.604	.545	321	20
2 1753 17607 1466 17338 17213 17102 992 903 814 693 544 32 1752 17606 1466 17338 17212 17102 991 902 814 693 544 32 1752 17606 1466 17338 17212 17101 991 902 814 693 544 32 1752 1751 17605 17465 17337 17211 17101 991 902 814 693 544 32 1744 1759 17604 1746 17337 17211 17101 991 902 814 693 544 32 1748 17602 1746 17335 17211 17101 991 902 814 693 544 32 1748 17602 1746 17335 17211 17100 990 901 813 692 544 32 1744 17502 17402 17402 17335 17210 17009 990 901 813 692 544 32 1744 17502 17402 17402 17335 17210 17009 989 900 813 692 544 32 1744 17509 1745 17335 17208 17098 989 900 812 691 543 32 1744 17509 1745 17302 17007 997 989 900 812 691 543 32 1744 17509 1745 17302 17007 997 987 899 811 691 543 32 1744 17509 1745 17302 17007 1907 987 899 811 691 543 32 1744 17509 1745 17302 17007 1907 987 898 811 691 543 32 1744 17509 1745 17302 17004 17004 985 897 810 690 542 33 1745 1733 17503 1745 1732 17203 17094 985 897 809 689 542 31 1773 17503 1745 1732 17203 17094 985 897 809 689 542 31 1773 17503 1745 1732 17201 17094 985 897 809 689 542 31 1773 17503 1745 1732 17201 17094 985 897 809 689 542 31 1773 17503 1745 1732 17201 17094 985 897 809 689 542 31 1773 17503 1745 1732 17201 17094 985 897 809 689 542 31 1773 17503 1745 1732 17201 17094 985 897 809 689 542 31 1773 17503 1745 1732 17201 17094 985 897 809 689 542 31 1773 17503 1745 1732 1730 17001 982 894 807 688 541 31 1772 1758 1744 1731 1793 1705 1705 1705 1705 1705 1705 1705 1705										·815			.321	1
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28 1.7551 1.665 1.465 1.337 1.212 1.101 991 902 814 693 544 32 6 1.750 1.604 1.464 1.337 1.211 1.101 991 902 814 693 544 32 7 1.749 1.604 1.335 1.210 1.100 990 901 813 692 544 32 8 1.748 1.603 1.461 1.334 1.209 1.099 989 900 813 692 544 32 30 1.746 1.601 1.461 1.334 1.209 1.099 989 900 812 691 543 32 1 1.745 1.600 1.460 1.333 1.208 1.098 989 900 812 691 543 32 1 1.741 1.559 1.452 1.330 1.205 1.096 986 898 811 691													.321	4
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7 1749 1604 1464 1336 1211 1100 990 901 813 692 544 32 81 748 1603 1463 1335 1210 1100 990 901 813 692 544 32 81 747 1602 1462 1335 1210 1109 989 900 812 692 544 32 81 745 1600 1460 1333 1208 1098 989 900 812 692 543 32 1744 1599 1459 1332 1208 1098 988 899 812 691 543 32 1744 1599 1459 1332 1208 1098 988 899 812 691 543 32 1744 1596 1457 1330 1206 1096 987 898 811 691 543 32 81 741 1596 1457 1330 1205 1096 987 898 811 691 543 32 81 741 1595 1455 1329 1205 1096 987 898 811 691 543 32 81 733 1590 1455 1329 1205 1095 986 898 810 690 542 33 81 733 1590 1455 1329 1205 1095 986 897 809 690 542 33 81 733 1590 1455 1326 1202 1093 984 896 809 689 541 31 1733 1588 1446 1320 1094 985 897 809 689 541 31 1730 1587 1449 1322 1709 1092 983 895 808 688 541 31 1733 1587 1444 1329 1092 983 895 808 688 541 31 1733 1587 1444 1329 1092 983 895 808 688 541 31 1733 1587 1444 1329 1092 983 895 808 688 541 31 1733 1587 1444 1329 1092 983 895 808 688 541 31 1733 1587 1444 1319 1092 981 894 807 688 541 31 1733 1587 1444 1319 1092 981 894 807 688 541 31 1735 1581 1444 1319 1092 981 894 807 688 541 31 1735 1581 1444 1319 1096 1088 980 892 806 687 540 31 1708 1587 1443 1313 1095 1088 981 893 806 687 540 31 1708 1587 1443 1313 1095 1088 981 893 806 687 540 31 1708 1587 1443 1313 1095 1088 981 893 806 687 540 31 1708 1587 1443 1313 1095 1088 997 881 893 806 687 540 31 1708 1587 1443 1313 1095 1088 997 881 893 806 687 540 31 1708 1587 1443 1313 1095 1088 997 881 893 806 687 540 31 1708 1587 1443 1313 1095 1088 997 881 893 806 687 540 31 1708 1587 1443 1313 1095 1088 997 881 893 806 687 540 31 1708 1587 1443 1313 1095 1088 997 881 893 806 687 540 31 1708 1587 1443 1313 1095 1088 997 881 893 806 687 540 31 1708 1587 1443 1313 1095 1088 997 881 893 806 687 540 31 1708 1587 1443 1313 1095 1088 997 881 893 806 687 540 31 1708 1587 1443 1313 1095 1088 997 898 881 893 806 687 540 31 1708 1587 1708 1587 1708 1587 1708 1587 1708 1587 1708 1587 1708 1587 1708 1708 1708 1708 1708 1708 1708 17	-					1			- 1	814			.321	25
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8	1 1	1.449				1,311	1,100	.990	.901	.813		544	.350	7
1		1.748	1.603		1.332	1.310	1,100		.901	.813		544	.350	8
1 1745 1600 1460 1333 1208 1098 989 900 812 691 543 32 1744 1599 1459 1332 1208 1098 988 899 812 691 543 32 1741 1596 1457 1330 1206 1096 987 889 811 691 543 32 1741 1596 1457 1330 1205 1096 987 889 811 691 543 32 1741 1596 1457 1330 1205 1096 987 889 811 691 543 32 1741 1596 1457 1330 1205 1096 987 898 810 690 542 31 1741 1596 1455 1329 1205 1095 986 897 810 690 542 31 1741 1593 1454 1328 1204 1094 985 897 810 690 542 31 1745 1593 1454 1328 1204 1094 985 897 809 689 542 31 1745 1593 1454 1328 1202 1093 984 896 809 689 542 31 1745 1593 1454 1328 1202 1093 984 896 809 689 542 31 1745 1593 1454 1328 1201 1092 983 895 808 688 541 31 1730 1587 1449 1323 1200 1091 982 894 807 688 541 31 1730 1587 1444 1329 1196 1088 980 892 806 687 540 31 1723 1581 1444 1319 1196 1088 980 892 806 687 540 31 1771 1571 1435 1313 1192 1084 976 889 803 685 530 31 8 1711 1571 1435 1313 1192 1084 976 889 803 685 530 31 8 1711 1571 1435 1313 1192 1084 976 889 803 685 530 31 8 1711 1571 1435 1313 1190 1082 975 888 802 684 538 31 190 1708 1565 1543 130 1181 1097 972 885 800 682 536 31 1190 1082 975 888 802 684 538 31 111 1700 1561 1427 1304 1183 1007 972 885 800 682 537 31 1100 1561 1427 1304 1183 1007 972 885 800 682 536 31 1100 1561 1427 1304 1183 1007 972 885 800 682 536 31 1100 1561 1427 1304 1183 1007 972 885 800 682 536 31 1100 1561 1427 1304 1183 1007 972 885 800 682 536 31 1505 1538 1440 1201 1202 1007 972 885 800 682 537 31 1100 1561 1427 1304 1183 1007 972 885 800 682 537 31 1100 1561 1427 1304 1183 1007 972 885 800 682 537 31 1100 1561 1427 1304 1183 1007 972 885 800 682 537 31 1100 1561 1571 1571 1435 1301 1181 1007 972 885 800 682 537 31 1100 1561 1427 1304 1183 1007 970 884 799 681 538 31 1505 537 1400 1282 1168 1007 972 885 800 682 537 33 1100 1561 1427 1304 1183 1007 970 884 799 681 538 31 1505 536 31 1400 1282 1168 1000 956 877 795 678 533 31 1000 1551 1401 1282 1168 1000 956 877 795 678 533 31 1000 1551 1401 1282 1164 1006 956 877 795 675 533 31 1000 1551 1401 1282 1164 1006 956 877 795 677 533 31 1000 1561 1401 1282 1164 1	9	1.747	1.603	1,463	1,332	1,310	1.099	989	.000	.813	.692	·544	.350	9
1 1745 1600 1460 1333 1208 1098 989 900 812 691 543 32 1744 1599 1459 1332 1208 1098 988 899 812 691 543 32 1741 1596 1457 1330 1206 1096 987 889 811 691 543 32 1741 1596 1457 1330 1205 1096 987 889 811 691 543 32 1741 1596 1457 1330 1205 1096 987 889 811 691 543 32 1741 1596 1457 1330 1205 1096 987 898 810 690 542 31 1741 1596 1455 1329 1205 1095 986 897 810 690 542 31 1741 1593 1454 1328 1204 1094 985 897 810 690 542 31 1745 1593 1454 1328 1204 1094 985 897 809 689 542 31 1745 1593 1454 1328 1202 1093 984 896 809 689 542 31 1745 1593 1454 1328 1202 1093 984 896 809 689 542 31 1745 1593 1454 1328 1201 1092 983 895 808 688 541 31 1730 1587 1449 1323 1200 1091 982 894 807 688 541 31 1730 1587 1444 1329 1196 1088 980 892 806 687 540 31 1723 1581 1444 1319 1196 1088 980 892 806 687 540 31 1771 1571 1435 1313 1192 1084 976 889 803 685 530 31 8 1711 1571 1435 1313 1192 1084 976 889 803 685 530 31 8 1711 1571 1435 1313 1192 1084 976 889 803 685 530 31 8 1711 1571 1435 1313 1190 1082 975 888 802 684 538 31 190 1708 1565 1543 130 1181 1097 972 885 800 682 536 31 1190 1082 975 888 802 684 538 31 111 1700 1561 1427 1304 1183 1007 972 885 800 682 537 31 1100 1561 1427 1304 1183 1007 972 885 800 682 536 31 1100 1561 1427 1304 1183 1007 972 885 800 682 536 31 1100 1561 1427 1304 1183 1007 972 885 800 682 536 31 1100 1561 1427 1304 1183 1007 972 885 800 682 536 31 1505 1538 1440 1201 1202 1007 972 885 800 682 537 31 1100 1561 1427 1304 1183 1007 972 885 800 682 537 31 1100 1561 1427 1304 1183 1007 972 885 800 682 537 31 1100 1561 1427 1304 1183 1007 972 885 800 682 537 31 1100 1561 1571 1571 1435 1301 1181 1007 972 885 800 682 537 31 1100 1561 1427 1304 1183 1007 970 884 799 681 538 31 1505 537 1400 1282 1168 1007 972 885 800 682 537 33 1100 1561 1427 1304 1183 1007 970 884 799 681 538 31 1505 536 31 1400 1282 1168 1000 956 877 795 678 533 31 1000 1551 1401 1282 1168 1000 956 877 795 678 533 31 1000 1551 1401 1282 1164 1006 956 877 795 675 533 31 1000 1551 1401 1282 1164 1006 956 877 795 677 533 31 1000 1561 1401 1282 1164 1	30	1.246	1.601	1.461	1'334	1.300	1,000	.080	-000	812	692	543	.320	30
2 1744 1°599 1°459 1°332 1°208 1°98 '988 '899 '812 '691 '543 '32 3 1°742 1°598 1°458 1°331 1°207 1°096 '897 '898 '811 '691 '543 '32 4 1°741 1°596 1°457 1°330 1°205 1°096 '986 '898 '811 '691 '543 '32 6 1°738 1°456 1°320 1°205 1°096 '986 '898 '810 '690 '542 '32 7 1°737 1°593 1°454 1°328 1°204 '094 '985 '897 '809 '690 '542 '32 8 1°735 1°453 1°326 1°202 1°093 '984 '896 '809 '689 '542 '31 9 1°733 1°580 1°453 1°324 1°201 1°092 '983 '895 808 '688 <th></th> <th></th> <th>1 -</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th>- 1</th> <th>_ 1</th> <th></th> <th></th> <th>.320</th> <th>1</th>			1 -						- 1	_ 1			.320	1
8 1742 1598 1458 1331 1207 1097 987 899 811 691 543 32 4 1741 1596 1457 1330 1206 1096 987 898 811 691 543 32 85 1739 1595 1456 1330 1205 1096 986 898 810 690 542 32 6 1738 1594 1455 1329 1205 1095 986 897 810 690 542 32 7 1737 1593 1454 1328 1204 1094 985 897 809 690 542 31 8 1735 1591 1453 1327 1203 1093 984 896 809 689 541 31 9 1733 1590 1452 1326 1202 1093 984 896 809 689 541 31 1730 1587 1449 1323 1200 1091 982 894 807 688 541 31 1 1730 1587 1449 1323 1200 1091 982 894 807 688 541 31 2 1728 1585 1447 1322 1199 1090 981 894 807 688 541 31 3 1725 1583 1446 1320 1198 1088 980 892 806 687 540 31 4 1723 1581 1444 1319 1196 1088 980 892 806 687 540 31 4 1771 1571 1435 1311 1190 1082 977 890 804 685 539 31 8 1711 1571 1435 1311 1190 1082 975 888 802 684 538 31 9 1708 1568 1433 1309 1188 1080 973 887 801 683 538 31 9 1708 1568 1433 1309 1188 1080 973 887 801 683 538 31 1 1700 1561 1427 1304 1183 1079 972 885 800 682 537 31 1 1700 1561 1427 1304 1183 1079 972 885 800 682 536 31 30 1704 1564 1430 1282 1178 1079 964 887 796 683 536 31 30 1704 1564 1430 1282 1178 1079 972 885 800 682 536 31 31 1700 1565 1427 1304 1183 1079 970 884 799 681 536 31 31 100 1565 1427 1304 1183 1079 970 884 799 681 536 31 31 100 1565 1427 1304 1183 1079 970 884 799 681 536 31 31 100 1565 1427 1304 1183 1079 970 884 799 681 536 31 31 100 1565 1427 1304 1183 1079 970 884 799 681 536 31 31 100 1565 1427 1304 1183 1079 970 884 799 681 536 31 31 100 1565 1427 1304 1183 1079 964 879 795 678 533 31 100 1172 1067 964 879 795 678 533 31 100 1172 1067 964 879 795 678 533 31 100 1172 1067 964 879 795 678 533 31 100 1185 1064 959 874 791 675 532 31 100 1185 1064 959 874 791 675 532 31 100 1185 1064 959 874 791 675 532 31 100 1185 1064 959 874 791 675 532 31 100 1185 1064 959 874 791 675 532 31 100 1185 1064 959 874 791 675 532 31 100 1185 1064 959 874 791 675 532 31 100 1185 1064 959 874 791 675 532 31 100 1185 1064 959 874 791 675 532 31 100 1185 1064 959 874 791 675 532 31 100 1185 1064 959 874 791 675 532 31 100 1185 1064 959 874 791 675 532 31 100										_ 1			320	2
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85 1.739 1.595 1.456 1.330 1.205 1.096 986 898 810 690 542 32 6 1.738 1.594 1.455 1.329 1.205 1.095 986 897 810 690 542 32 7 1.737 1.593 1.454 1.328 1.204 1.094 .985 897 809 690 .542 .31 8 1.735 1.591 1.453 1.327 1.203 1.093 .984 .896 .809 .689 .542 .31 9 1.733 1.585 1.450 1.324 1.201 1.092 .983 .895 .808 .688 .541 .31 1 1.730 1.587 1.449 1.323 1.200 1.091 .982 .804 .807 .688 .541 .31 1 1.725 1.583 1.447 1.322 1.199 1.090 .981 .894				1 -						_			320	4
6 1738 1.594 1.455 1.329 1.205 1.095 986 897 810 690 542 32 81 1.737 1.593 1.454 1.328 1.204 1.094 985 897 809 690 542 31 8 1.735 1.591 1.453 1.327 1.203 1.093 984 896 809 689 541 31 9 1.733 1.590 1.452 1.326 1.202 1.093 984 896 809 689 541 31 1.730 1.587 1.449 1.323 1.200 1.091 982 894 807 688 541 31 1.730 1.587 1.449 1.322 1.199 1.090 981 894 807 688 541 31 1.725 1.583 1.446 1.320 1.198 1.089 981 893 806 687 540 31 1.725 1.583 1.446 1.320 1.198 1.089 981 893 806 687 540 31 1.723 1.581 1.444 1.319 1.196 1.088 980 892 806 687 540 31 1.725 1.581 1.442 1.317 1.195 1.086 979 891 805 686 540 31 1.718 1.570 1.438 1.313 1.192 1.084 976 889 803 685 539 31 1.711 1.571 1.435 1.311 1.190 1.082 975 888 802 684 538 31 1.706 1.564 1.430 1.307 1.188 1.080 973 887 801 683 538 31 1.000 1.555 1.433 1.309 1.188 1.080 973 887 801 683 538 31 1.000 1.555 1.420 1.304 1.183 1.077 970 884 799 681 538 538 31 1.000 1.551 1.427 1.304 1.183 1.077 970 884 799 681 536 536 331 1.000 1.551 1.427 1.304 1.183 1.077 970 884 799 681 536 536 331 1.000 1.553 1.420 1.298 1.188 1.000 972 885 800 682 536 331 1.000 1.553 1.420 1.298 1.188 1.000 972 885 800 682 536 331 1.000 1.553 1.420 1.298 1.188 1.000 972 885 800 682 536 331 1.000 1.553 1.420 1.298 1.188 1.000 972 885 802 688 536 536 331 1.000 1.553 1.420 1.298 1.178 1.000 972 885 800 682 536 331 1.000 1.553 1.420 1.298 1.178 1.000 972 885 800 682 536 331 1.000 1.553 1.420 1.298 1.178 1.000 972 885 800 682 536 331 1.000 1.553 1.420 1.298 1.178 1.000 972 885 800 682 536 331 1.000 1.553 1.420 1.298 1.178 1.000 972 885 800 682 536 331 1.000 1.553 1.420 1.298 1.178 1.000 972 885 800 682 536 331 1.000 1.553 1.420 1.298 1.178 1.000 972 885 800 682 536 331 1.000 1.553 1.420 1.298 1.178 1.000 972 885 800 682 536 331 1.000 1.553 1.420 1.298 1.178 1.000 972 885 800 682 536 533 331 1.000 1.553 1.420 1.298 1.178 1.000 970 970 970 970 970 970 970 970 970		I			1						-			
7 1737 1593 1454 1328 1204 1094 985 897 809 690 542 31 8 1735 1591 1453 1327 1203 1093 984 896 809 689 542 31 9 1733 1590 1452 1326 1202 1093 984 896 809 689 541 31 1 1730 1587 1449 1323 1200 1091 982 894 807 688 541 31 1 1730 1585 1447 1322 1199 1090 981 894 807 688 541 31 2 1728 1583 1446 1320 1198 1089 981 893 806 687 540 31 4 1723 1581 1444 1319 1196 1088 980 892 806 687 540 31 4 1723 1581 1444 1315 1195 1086 979 891 805 686 540 31 7 1715 1574 1438 1313 1192 1084 976 889 803 685 539 31 8 1711 1571 1435 1311 1190 1082 975 888 802 684 538 31 9 1708 1568 1433 1309 1188 1080 973 887 801 683 538 31 1 1700 1561 1427 1304 1183 1077 970 884 799 681 536 31 1 1605 1553 1411 1290 1172 1067 962 877 798 680 536 531 31 1 1600 1531 1401 1282 1164 1060 956 872 789 674 531 31 1 1600 1531 1401 1282 1164 1060 956 872 789 674 531 31 1 1600 1531 1401 1282 1164 1060 956 872 789 674 531 31 1 1600 1531 1401 1282 1164 1060 956 872 789 674 531 31 1 1600 1531 1401 1282 1164 1060 956 872 789 674 531 31 1 1600 1531 1401 1282 1164 1060 956 872 789 674 531 31 1 1600 1531 1401 1282 1164 1060 956 872 789 674 531 31 1 1600 1531 1401 1282 1164 1060 956 872 789 674 531 31 1 1600 1531 1401 1282 1164 1060 956 872 789 674 531 31	-				i	-							.320	35
8 1.735 1.591 1.453 1.327 1.203 1.093 984 896 809 689 542 31 9 1.733 1.590 1.452 1.326 1.202 1.093 984 896 809 689 541 31 1 1.730 1.588 1.450 1.324 1.201 1.092 983 895 808 688 541 31 1 1.730 1.587 1.449 1.323 1.200 1.091 982 894 807 688 541 31 2 1.728 1.585 1.447 1.322 1.199 1.090 981 894 807 688 541 31 3 1.725 1.583 1.446 1.320 1.198 1.089 981 893 806 687 540 31 4 1.723 1.581 1.444 1.319 1.196 1.088 980 892 806 687 540 31 4 1.720 1.579 1.442 1.317 1.195 1.086 979 891 805 686 540 31 7 1.715 1.574 1.438 1.313 1.192 1.084 976 889 803 685 539 31 8 1.711 1.571 1.435 1.311 1.190 1.082 975 888 802 684 538 31 9 1.708 1.568 1.433 1.309 1.188 1.080 973 887 801 683 538 31 1 1.700 1.561 1.427 1.304 1.183 1.077 970 884 799 681 536 31 1 1.700 1.561 1.427 1.304 1.183 1.074 968 882 798 680 536 31 3 1.690 1.553 1.420 1.298 1.178 1.072 966 881 796 679 535 31 4 1.685 1.548 1.415 1.294 1.175 1.069 964 879 795 678 533 31 6 1.670 1.543 1.411 1.290 1.172 1.067 962 877 793 677 533 31 7 1.000 1.531 1.401 1.282 1.164 1.060 956 872 7.89 674 531 31 8 1.658 1.531 1.401 1.282 1.164 1.060 956 872 7.89 674 531 31 8 1.658 1.525 1.305 1.277 1.160 1.057 953 869 787 672 530 31			• •	1			1		897			•	.330	6
9 1733 1590 1452 1326 1202 1093 984 896 809 689 541 31 1 1731 1588 1450 1324 1201 1092 983 895 808 688 541 31 1 1730 1587 1449 1323 1200 1091 982 894 807 688 541 31 2 1728 1585 1447 1322 1199 1090 981 894 807 688 541 31 3 1725 1583 1446 1320 1198 1089 981 893 806 687 540 31 4 1723 1581 1444 1319 1196 1088 980 892 806 687 540 31 4 1720 1579 1442 1317 1195 1086 979 891 805 686 540 31 6 1718 1576 1440 1315 1193 1085 977 890 804 685 539 31 7 1715 1574 1438 1313 1192 1084 976 889 803 685 539 31 8 1711 1571 1435 1311 1190 1082 975 888 802 684 538 31 9 1708 1568 1433 1309 1188 1080 973 887 801 683 538 31 1 1700 1561 1427 1304 1183 1077 970 884 799 681 536 31 2 1695 1557 1423 1301 1181 1074 968 882 798 680 536 31 3 1690 1553 1420 1298 1178 1072 966 881 796 679 535 31 4 1685 1548 1415 1294 1175 1069 964 879 795 678 534 31 7 1000 1531 1401 1282 1164 1060 956 872 789 674 531 31 8 1658 1531 1401 1282 1164 1060 956 872 789 674 531 31 8 1658 1531 1401 1282 1164 1060 956 872 789 674 531 31 8 1658 1531 1401 1282 1164 1060 956 872 789 674 531 31 8 1658 1531 1401 1282 1164 1060 956 872 789 674 531 31						1 1							.319	7
40 1'731 1'588 1'450 1'324 1'201 1'092 '983 '895 '808 '688 '541 '31 1'730 1'587 1'449 1'323 1'200 1'091 '982 '894 '807 '688 '541 '31 2 1'728 1'585 1'447 1'322 1'199 1'090 '981 '894 '807 '688 '541 '31 3 1'725 1'583 1'446 1'320 1'198 1'089 '981 '893 '806 '687 '540 '31 4 1'723 1'581 1'444 1'319 1'196 1'088 '980 '892 '806 '687 '540 '31 4 1'720 1'579 1'442 1'317 1'195 1'086 '979 '891 '805 '686 '540 '31 6 1'718 1'570 1'440 1'315 1'193 1'085 '977 '890 '804 '685 '539 '31 7 1'715 1'574 1'438 1'313 1'192 1'084 '976 '889 '803 '685 '539 '31 8 1'711 1'571 1'435 1'311 1'190 1'082 '975 '888 '802 '684 '538 '31 9 1'708 1'568 1'433 1'309 1'188 1'080 '973 '887 '801 '683 '538 '31 1'700 1'561 1'427 1'304 1'183 1'070 '972 '885 '800 '682 '537 '31 1'700 1'561 1'427 1'304 1'183 1'077 '970 '884 '799 '681 '536 '31 1'091 1'092 1'094 '879 '795 '678 '534 '31 1'092 1'084 '976 '889 '803 '685 '539 '31 1'092 1'094 1'564 1'430 1'307 1'186 1'079 '972 '885 '800 '682 '537 '31 1'190 1'561 1'427 1'304 1'183 1'077 '970 '884 '799 '681 '536 '31 1'005 1'553 1'420 1'298 1'178 1'072 '966 '881 '796 '679 '535 '31 1'605 1'548 1'415 1'294 1'175 1'069 '964 '879 '795 '678 '534 '31 1'606 1'531 1'401 1'282 1'164 1'060 '956 '872 '789 '674 '531 '31 1'060 1'531 1'401 1'282 1'164 1'060 '956 '872 '789 '674 '531 '31 1'060 1'531 1'401 1'282 1'164 1'060 '956 '872 '789 '674 '531 '31 1'060 1'531 1'401 1'282 1'164 1'060 '956 '872 '789 '674 '531 '31 1'060 1'531 1'401 1'282 1'164 1'060 '956 '872 '789 '674 '531 '31 1'060 1'531 1'401 1'282 1'164 1'060 '956 '872 '789 '674 '531 '31 1'060 1'531 1'401 1'282 1'164 1'060 '956 '872 '789 '674 '531 '31 1'060 1'057 '953 '869 '787 '672 '530 '31													.319	8
1 1.730 1.587 1.449 1.323 1.200 1.091 982 894 807 688 541 31 2 1.728 1.585 1.447 1.322 1.199 1.090 981 893 806 687 540 31 3 1.725 1.583 1.446 1.320 1.198 1.089 981 893 806 687 540 31 4 1.723 1.581 1.444 1.319 1.196 1.088 980 892 806 687 540 31 45 1.720 1.579 1.442 1.317 1.195 1.086 979 891 805 686 540 31 6 1.718 1.576 1.440 1.315 1.193 1.085 977 890 804 685 539 31 7 1.715 1.574 1.438 1.313 1.192 1.084 976 889 803 685 539 31 8 1.711 1.571 1.435 1.311 1.190 1.082 975 888 802 684 538 31 9 1.708 1.568 1.433 1.309 1.188 1.080 973 887 801 683 538 31 9 1.708 1.565 1.433 1.309 1.188 1.080 973 887 801 683 538 31 1 1.700 1.561 1.427 1.304 1.183 1.077 970 884 799 681 536 31 2 1.695 1.557 1.423 1.301 1.181 1.074 968 882 798 680 536 31 3 1.690 1.553 1.420 1.298 1.178 1.072 966 881 796 679 535 31 4 1.685 1.548 1.411 1.290 1.172 1.067 964 879 795 678 533 31 6 1.670 1.543 1.411 1.290 1.172 1.067 962 877 793 677 533 31 7 1.000 1.531 1.401 1.282 1.164 1.060 956 872 7.89 674 531 31 8 1.658 1.525 1.305 1.277 1.160 1.057 953 869 787 672 530 31	l a	1.733	i -	-	1.350	1.503	1.093	-	- 1	.809	-	541	.319	9
1 1730 1587 1449 1323 1200 1091 982 894 807 688 541 31 2 1728 1585 1447 1322 1199 1090 981 894 807 688 541 31 3 1725 1583 1446 1320 1198 1089 981 893 806 687 540 31 4 1723 1581 1444 1319 1196 1088 980 892 806 687 540 31 45 1720 1579 1442 1317 1195 1086 979 891 805 686 540 31 6 1718 1576 1440 1315 1193 1085 977 890 804 685 539 31 7 1715 1574 1438 1313 1192 1084 976 889 803 685 539 31 8 1711 1571 1435 1311 1190 1082 975 888 802 684 538 31 9 1708 1568 1433 1309 1188 1080 973 887 801 683 538 31 9 1708 1565 1433 1309 1188 1080 973 887 801 683 538 31 1 1700 1561 1427 1304 1183 1077 970 884 799 681 536 31 2 1695 1557 1423 1301 1181 1074 968 882 798 680 536 31 3 1690 1553 1420 1298 1178 1072 966 881 796 679 535 31 4 1085 1548 1415 1294 1175 1069 964 879 795 678 534 31 6 1673 1537 1400 1285 1168 1064 959 874 791 675 532 31 7 1000 1531 1401 1282 1164 1060 956 872 789 674 531 31 8 1658 1531 1401 1282 1164 1060 956 872 789 674 531 31	40	1.431	1.288	1.450	1.324	1,301	1.003	.983	895		.688	541	.319	40
2 1.728 1.585 1.447 1.322 1.199 1.090 981 894 807 688 541 31 3 1.725 1.583 1.446 1.320 1.198 1.089 981 893 806 687 540 31 4 1.723 1.581 1.444 1.319 1.196 1.088 980 892 806 687 540 31 45 1.720 1.579 1.442 1.317 1.195 1.086 979 891 805 686 540 31 6 1.718 1.576 1.440 1.315 1.193 1.085 977 890 804 685 539 31 7 1.715 1.574 1.435 1.311 1.190 1.082 975 888 802 684 538 33 8 1.711 1.557 1.435 1.311 1.190 1.082 975 888 802 684 538 33 9 1.708 1.565 1.433 1.307 <th>1</th> <th>1.730</th> <th></th> <th></th> <th></th> <th></th> <th>1001</th> <th>982</th> <th>894</th> <th>.807</th> <th>.688</th> <th>541</th> <th>.319</th> <th>1</th>	1	1.730					1001	982	894	.807	.688	541	.319	1
3 1.725 1.583 1.446 1.320 1.198 1.089 981 893 806 687 540 31 4 1.723 1.581 1.444 1.319 1.196 1.088 980 892 806 687 540 31 4 1.720 1.579 1.442 1.317 1.195 1.086 979 891 805 686 540 31 6 1.718 1.576 1.440 1.315 1.193 1.085 977 890 804 685 539 31 7 1.715 1.574 1.438 1.313 1.192 1.084 976 889 803 685 539 31 8 1.711 1.571 1.435 1.311 1.190 1.082 975 888 802 684 538 31 9 1.708 1.568 1.433 1.309 1.188 1.080 973 887 801 683 538 31 1 1.700 1.561 1.427 1.304 1.183 1.077 970 884 799 681 536 31 1 1.700 1.561 1.427 1.304 1.183 1.077 970 884 799 681 536 31 2 1.695 1.557 1.423 1.301 1.181 1.074 968 882 798 680 536 31 3 1.690 1.553 1.420 1.298 1.178 1.072 966 881 796 679 535 31 4 1.685 1.548 1.415 1.294 1.175 1.069 964 879 795 678 534 31 6 1.670 1.543 1.411 1.290 1.172 1.067 962 877 793 677 533 31 6 1.673 1.537 1.400 1.280 1.168 1.064 959 874 791 675 532 31 7 1.000 1.531 1.401 1.282 1.164 1.060 956 872 7.89 674 531 31 8 1.658 1.525 1.305 1.277 1.160 1.057 953 869 787 672 530 31	2	1.728	1.285	1'447			1,000	186.		807	.688	.241	.319	2
4 1.723 1.581 1.444 1.319 1.196 1.088 980 892 806 687 540 31 45 1.720 1.579 1.442 1.317 1.195 1.086 979 891 805 686 540 31 6 1.718 1.570 1.440 1.315 1.193 1.085 977 890 804 685 539 31 7 1.715 1.574 1.438 1.313 1.192 1.084 976 889 803 685 539 31 8 1.711 1.571 1.435 1.311 1.190 1.082 975 888 802 684 538 31 9 1.708 1.568 1.433 1.309 1.188 1.080 973 887 801 683 538 31 1 1.700 1.561 1.427 1.304 1.183 1.077 970 884 799 681 536 31 1 1.700 1.561 1.427 1.304 1.183 1.077 970 884 799 681 536 31 2 1.695 1.557 1.423 1.301 1.181 1.074 968 882 798 680 536 31 3 1.690 1.553 1.420 1.298 1.178 1.072 966 881 796 679 535 31 4 1.685 1.548 1.411 1.290 1.172 1.067 964 879 795 678 534 31 6 1.673 1.537 1.400 1.280 1.168 1.064 959 874 791 675 532 31 7 1.000 1.531 1.401 1.282 1.164 1.060 956 872 7.89 674 531 31 8 1.658 1.525 1.305 1.277 1.160 1.057 953 869 787 672 530 31	3	1.725			1.320	1,198	1 289	186.	893		.687	.240	.319	3
45 1.720 1.579 1.442 1.317 1.195 1.086 979 891 805 686 540 31 718 1.576 1.440 1.315 1.193 1.085 977 890 804 685 539 31 7 1.715 1.574 1.438 1.313 1.192 1.084 976 889 803 685 539 31 8 1.711 1.571 1.435 1.311 1.190 1.082 975 888 802 684 538 31 9 1.708 1.568 1.433 1.309 1.188 1.080 973 887 801 683 538 31 1.700 1.561 1.427 1.304 1.183 1.077 970 884 799 681 536 31 1.700 1.561 1.427 1.304 1.183 1.077 970 884 799 681 536 31 1.695 1.553 1.420 1.298 1.178 1.074 968 882 798 680 536 31 1.605 1.553 1.420 1.298 1.178 1.072 966 881 796 679 535 31 1.605 1.548 1.415 1.294 1.175 1.069 964 879 795 678 534 31 1.005 1.531 1.401 1.280 1.168 1.064 956 872 789 674 531 31 1.000 1.531 1.401 1.282 1.164 1.060 956 872 7.89 674 531 31 1.000 1.531 1.401 1.282 1.164 1.060 956 872 7.89 674 531 31 1.000 1.555 1.548 1.401 1.282 1.164 1.060 956 872 7.89 674 531 31 1.000 1.531 1.401 1.282 1.164 1.060 956 872 7.89 674 531 31 1.000 1.555 1.548 1.401 1.282 1.164 1.060 956 872 7.89 674 531 31 1.000 1.555 1.548 1.401 1.282 1.164 1.060 956 872 7.89 674 531 31 1.000 1.555 1.548 1.401 1.282 1.164 1.060 956 872 7.89 674 531 31 1.000 1.555 1.548 1.401 1.282 1.164 1.060 956 872 7.89 674 531 31 1.000 1.555 1.548 1.401 1.282 1.164 1.060 956 872 7.89 674 531 31 1.000 1.555 1.548 1.401 1.282 1.164 1.060 956 872 7.89 674 531 31 1.000 1.285 1.305 1.277 1.160 1.057 953 869 787 672 530 31	4	1.723	1.281		1.319	1,199	880'1	980	892	·8o6	687	.240	.319	4
6 1718 1576 1440 1315 1193 1085 977 890 804 685 539 31 7 1715 1574 1438 1313 1192 1084 976 889 803 685 539 31 8 1711 1571 1435 1311 1190 1082 975 888 802 684 538 31 9 1708 1568 1433 1309 1188 1080 973 887 801 683 538 31 1700 1561 1427 1304 1183 1077 970 884 799 681 536 31 1700 1561 1427 1304 1183 1077 970 884 799 681 536 31 1695 1557 1423 1301 1181 1074 968 882 798 680 536 31 1600 1553 1420 1298 1178 1072 966, 881 796 679 535 31 1605 1548 1415 1294 1175 1069 964 879 795 678 534 31 1606 1531 1401 1280 1172 1067 962 877 793 677 533 31 1606 1531 1401 1282 1164 1060 956 872 789 674 531 31 8 1658 1525 1305 1277 1160 1057 953 869 787 672 530 31	AR		•	i	i	1		l - 1		-805	- 1		.318	45
7 1.715 1.574 1.438 1.313 1.192 1.084 976 889 803 685 539 31 8 1.711 1.571 1.435 1.311 1.190 1.082 975 888 802 684 538 31 9 1.708 1.568 1.433 1.309 1.188 1.080 973 887 801 683 538 31 1 1.700 1.561 1.427 1.304 1.183 1.077 970 884 799 681 536 31 1 1.700 1.561 1.427 1.304 1.183 1.077 970 884 799 681 536 31 2 1.695 1.557 1.423 1.301 1.181 1.074 968 882 798 680 536 31 3 1.690 1.553 1.420 1.298 1.178 1.072 966 881 796 679 535 31 4 1.685 1.548 1.415 1.294 1.175 1.069 964 879 795 678 534 31 8 1.670 1.543 1.411 1.290 1.172 1.067 962 877 793 677 533 31 8 1.670 1.543 1.411 1.290 1.172 1.067 962 877 793 677 533 31 9 1.660 1.531 1.401 1.282 1.164 1.060 956 872 7.89 674 531 31 8 1.658 1.525 1.305 1.277 1.160 1.057 953 869 787 672 530 31	B -								.800				.318	6
8 1711 1571 1435 1311 1190 1082 975 888 802 684 538 31 9 1708 1568 1433 1309 1188 1080 973 887 801 683 538 31 1 1700 1561 1427 1304 1183 1077 970 884 799 681 536 31 1 1700 1561 1427 1304 1183 1077 970 884 799 681 536 31 2 1695 1557 1423 1301 1181 1074 968 882 798 680 536 31 3 1690 1553 1420 1298 1178 1072 966, 881 796 679 535 31 4 1685 1548 1415 1294 1175 1069 964 879 795 678 534 31 6 1670 1543 1411 1290 1172 1067 962 877 793 677 533 31 6 1673 1537 1400 1280 1168 1064 959 874 791 675 532 31 7 1660 1531 1401 1282 1164 1060 956 872 789 674 531 31 8 1658 1525 1305 1277 1160 1057 953 869 787 672 530 31											-68r		.318	7
9 1.708 1.568 1.433 1.309 1.188 1.080 973 887 801 683 538 31 80 1.704 1.564 1.430 1.307 1.186 1.079 972 885 800 682 537 31 1 1.700 1.561 1.427 1.304 1.183 1.077 970 884 799 681 536 31 2 1.695 1.557 1.423 1.301 1.181 1.074 968 882 798 680 536 31 3 1.690 1.553 1.420 1.298 1.178 1.072 966 881 796 679 535 31 4 1.685 1.548 1.415 1.294 1.175 1.069 964 879 795 678 534 31 8 1.670 1.543 1.411 1.290 1.172 1.067 962 877 793 677 533 31 8 1.670 1.543 1.411 1.290 1.172 1.067 962 877 793 677 533 31 9 1.000 1.531 1.401 1.282 1.164 1.060 956 872 789 674 531 31 8 1.658 1.525 1.305 1.277 1.160 1.057 953 869 787 672 530 31													318	8
50 1704 1'564 1'430 1'307 1'186 1'079 '972 '885 '800 '682 '537 '31 1 1'700 1'561 1'427 1'304 1'183 1'077 '970 '884 '799 '681 '536 '31 2 1'695 1'557 1'423 1'301 1'181 1'074 '968 '882 '798 '680 '536 '31 3 1'690 1'553 1'420 1'298 1'178 1'072 '966 '881 '796 '679 '535 '31 4 1'685 1'548 1'415 1'294 1'175 1'069 '964 '879 '795 '678 '534 '31 56 1'679 1'543 1'411 1'290 1'172 1'067 '962 '877 '793 '677 '533 '31 6 1'673 1'537 1'400 1'280 1'168 1'064 '959 '874 '791 '675 '532 '31 7 1'060 1'531 1'401 1'282 1'164 1'060 '956 '872 '789 '674 '531 '31 8 1'658	•	205.1	7.54.5	1. 493	7.300	22.1	17080	7/3						9
1 1700 17561 1427 17304 17183 17077 7970 7884 7799 7681 7536 731 2 17695 17557 1423 17301 17181 17074 7968 7882 7798 7680 7536 731 3 17690 17553 17420 17298 17178 17072 7966, 7881 7796 7679 7535 731 4 17685 17548 17411 17290 17172 17067 7964 7879 7795 7678 7534 731 8 17670 17543 17411 17290 17172 17067 7962 7877 7793 7677 7533 731 8 17670 17543 17411 17290 17172 17067 7962 7877 7793 7677 7533 731 9 17670 17543 17401 17280 17168 17064 7959 7874 7791 7675 7532 731 9 17670 17543 17401 17282 17164 17060 7956 7872 7789 7674 7531 731 9 17670 17543 17401 17282 17160 17057 7953 7869 787 7672 7530 731			1	•				l 1	- 1			•		
2 1695 1557 1423 1301 1181 1074 968 882 798 680 536 31 1690 1553 1420 1298 1178 1072 966, 881 796 679 535 31 1685 1548 1415 1294 1175 1069 964 879 795 678 534 31 685 1670 1543 1411 1290 1172 1067 962 877 793 677 533 31 6 1673 1537 1400 1286 1168 1064 959 874 791 675 532 31 7 1000 1531 1401 1282 1164 1060 956 872 789 674 531 31 8 1658 1525 1305 1277 1160 1057 953 869 787 672 530 31													317	50
3 1690 17553 17420 17298 17178 17072 7966, 881 7796 7679 7535 731 1685 17548 17415 17294 17175 17069 7964 879 7795 7678 7534 731 86 17679 17533 17411 17290 17172 17067 7962 877 7793 7677 7533 731 8 17670 17531 17401 17282 17164 17060 7956 872 7789 7674 7531 731 8 17658 17528 17305 17277 17160 17057 7953 869 787 7672 7530 731		1	-									-	317	1
4 1685 1548 1415 1294 1175 1769 7964 879 795 678 534 31 88 1679 1543 1411 1290 1172 17667 7962 877 793 677 533 31 8 1673 1537 1400 1286 1168 1764 7959 874 791 675 532 31 7 1760 1531 1401 1282 1164 1760 7956 872 789 674 531 31 8 1658 1525 1305 1277 1160 17057 7953 869 787 672 530 31											_			2
85 1.679 1.543 1.411 1.290 1.172 1.067 1.062 1.877 1.793 1.677 1.533 1.31 6 1.673 1.537 1.400 1.280 1.168 1.064 1.059 1.874 1.791 1.675 1.532 1.31 7 1.000 1.531 1.401 1.282 1.164 1.060 1.956 1.872 1.89 1.674 1.531 1.31 8 1.658 1.525 1.305 1.277 1.160 1.057 1.953 1.869 1.787 1.672 1.530 1.31				1,430	1,502	1.112	1.073		.881	796			.316	3
8 1.658 1.525 1.305 1.277 1.160 1.057 953 869 787 672 530 31	1 4	1.685	1.248	1,412	1,304	1,112	1.000			795		°534	316	4
8 1.658 1.525 1.305 1.277 1.160 1.057 953 869 787 672 530 31	55	1.679	1.243	1'411	1,500	1.125	17067	962			677	533	.312	55
7 1 000 1 531 1 401 1 282 1 160 1 050 956 872 789 674 531 31 8 1 658 1 525 1 305 1 277 1 160 1 057 953 869 787 672 530 31								_		701	675		315	6
8 1.628 1.252 1.302 1.524 1.160 1.024 323 .860 484 .645 .230 .31													315	7
													314	8
													313	•
		<u> </u>	•	-						,				
90 91 92 93 94 95 96 97 98 99 100 101		90	91	92	93	94	95	96	97	98 1	99	100	101	I

$O^{M(5)}$

TABLES OF UNIFORM SENIORITY.

TWO, THREE, AND FOUR JOINT LIVES.

For Examples of application of Tables, see page 252.

Table showing the number of years, (t), to be added to the age of the younger of two lives, (x), (x+h), to obtain the age of the two equivalent lives of equal ages, (x+t), and (x+t).

OM(5)

 $\mu_x + \mu_{x+h} = 2\mu_{x+t}$ $a_{x:x+h} = a_{x+t:x+t}$

 $\mathbf{OM}(5)$

h t h t 0 0°00 45 37'48 38'46 1 0°51 6 38'46 39'44 1°05 7 39'44 40'43 41'42 5 2°78 50 42'41 43'40 7 4'04 2 44'39 45'38 9'37 45'38 46'37 40		· · · · · · · · · · · · · · · · · · ·	$+h=a_x$	+1:#+1
1 0.51 6 38.46 2 1.05 7 39.44 8 1.60 8 40.43 4 2.18 9 41.42 5 2.78 50 42.41 6 3.40 1 43.40 7 4.04 2 44.39 8 4.70 3 45.38 9 5.39 4 46.37 10 6.09 55 47.36 1 6.81 6 48.36 2 7.54 7 49.35 8 8.30 8 50.34 4 9.07 9 51.34 15 9.86 60 52.33 11.47 2 54.33 8 12.30 8 55.32 9 13.14 4 56.32 20 13.99 65 57.32 1 14.85 6 58.31 2 15.73 7 59.31 8 16.61 8 60.31 4 17.50 9 61.30 25 18.40 70 62.30 6 19.31 1 63.30 7 20.23 2 64.30 8 21.15 3 65.30 9 22.08 4 66.30 30 23.01 75 67.30 1 23.95 6 68.30 2 24.89 7 69.29 8 25.84 8 70.29 8 25.84 8 70.29 8 30.64 9 71.29 8 30.64 9 71.29 8 30.64 9 75.29 9 31.61 4 76.29 40 32.58 85 77.29 9 31.61 4 76.29	h	t	h	t
1 0.51 8 38.46 2 1.05 7 39.44 8 1.60 8 40.43 4 2.18 9 41.42 5 2.78 50 42.41 6 3.40 1 43.40 7 4.04 2 44.39 8 4.70 3 45.38 9 5.39 4 46.37 10 6.09 55 47.36 1 6.81 6 48.36 2 7.54 7 49.35 8 8.30 8 50.34 4 9.07 9 51.34 15 9.86 60 52.33 1 1.47 2 54.33 8 12.30 8 55.32 9 13.14 4 56.32 20 13.99 65 57.32 1 14.85 6 58.31 20 13.99 65 57.32 1 14.85 6 58.31 20 13.99 65 57.32 1 14.85 6 58.31 20 13.99 65 57.32 1 14.85 6 58.31 20 13.99 65 60.30 21.15 9 61.30 25 18.40 70 62.30 6 19.31 1 63.30 7 20.23 2 64.30 8 21.15 3 65.30 9 22.08 4 66.30 80 23.01 75 67.30 1 23.95 6 68.30 2 24.89 7 69.29 3 25.84 8 70.29 3 25.84 8 70.29 3 25.84 8 70.29 3 25.84 8 70.29 3 25.84 8 70.29 3 26.80 9 71.29 8 30.64 8 75.29 8 30.64 8 75.29 8 30.64 9 31.61 4 76.29		0,00	45	37.48
2 1.05 7 39.44 8 1.60 8 40.43 4 2.18 9 41.42 5 2.78 50 42.41 6 3.40 1 43.40 7 4.04 2 44.39 8 4.70 3 45.38 9 5.39 4 46.37 10 6.09 55 47.36 1 6.81 6 48.36 2 7.54 7 49.35 8 30 8 50.34 9.07 9 51.34 15 9.86 60 52.33 10.66 1 53.33 7 11.47 2 54.33 8 12.30 3 55.32 9 13.14 4 56.32 1 14.85 6 58.31 2 15.73 7 59.31 3 16.61 8 60.31 4 17.50 9 61.30		0.21		
8 1.60 8 40.43 4 2.18 9 41.42 5 2.78 50 42.41 6 3.40 1 43.40 7 4.04 2 44.39 8 4.70 3 45.38 9 5.39 4 40.37 10 6.09 55 47.36 1 6.81 6 48.36 2 7.54 7 49.35 8 8.30 8 50.34 4 9.07 9 51.34 15 9.86 60 52.33 6 10.66 1 53.33 7 11.47 2 54.33 8 12.30 8 55.32 9 13.99 65 57.32 1 14.85 6 58.31 2 15.73 7 59.31 3 16.61 8 60.31 4 17.50 9 61.30 2 20.23		1.02	7	
4 2'18 9 41'42 5 2'78 50 42'41 6 3'40 1 43'40 7 4'04 2 44'39 8 4'70 3 45'38 9 5'39 4 46'37 10 6'09 55 47'36 1 6'81 6 48'36 2 7'54 7 49'35 8 8'30 8 50'34 4 9'07 9 51'34 15 9'86 60 52'33 6 10'66 1 53'33 7 11'47 2 54'33 8 12'30 3 55'32 9 13'14 4 56'32 20 13'99 65 57'32 1 14'85 6 53'31 2 15'73 7 59'31 3 16'61 8 60'31 4 17'50 9 61'30 25 18'40 </th <th></th> <th></th> <th>8</th> <th></th>			8	
6 3.40 1 43.40 7 4.04 2 44.39 8 4.70 3 45.38 9 5.39 4 46.37 10 6.09 55 47.36 1 6.81 6 48.36 2 7.54 7 49.35 8 8.30 8 50.34 4 9.07 9 51.34 15 9.86 60 52.33 6 10.66 1 53.33 7 11.47 2 54.33 8 12.30 3 55.32 9 13.14 4 56.32 1 14.85 6 58.31 2 15.73 7 59.31 3 16.61 8 60.31 4 17.50 9 61.30 25 18.40 70 62.30 4 17.50 9 61.30 8 21.15 3 65.30 9 22.08 </th <th>4</th> <th>2,18</th> <th>9</th> <th></th>	4	2,18	9	
7				42.41
8				43'40
8 4.70 3 45'38 5'39 4 46'37 10 6'09 55 47'36 1 6'81 6 48'36 2 7'54 7 49'35 8 8'30 8 50'34 4 9'07 9 51'34 15 9'86 60 52'33 6 10'66 1 53'33 7 11'47 2 54'33 8 12'30 3 55'32 9 13'14 4 56'32 1 14'85 6 58'31 2 15'73 7 59'31 3 16'61 8 60'31 4 17'50 9 61'30 25 18'40 70 62'30 4 17'50 9 61'30 8 21'15 3 65'30 9 22'08 4 66'30 30 23'01 75 67'30 1 23'95 <td< th=""><th></th><th></th><th></th><th>44'39</th></td<>				44'39
9 5:39 4 46:37 10 6:09 55 47:36 1 6:81 6 48:36 2 7:54 7 49:35 8 8:30 8 50:34 4 9:07 9 51:34 15 9:86 60 52:33 6 10:66 1 53:33 7 11:47 2 54:33 8 12:30 3 55:32 9 13:99 65 57:32 1 14:85 6 58:31 2 15:73 7 59:31 3 16:61 8 60:31 4 17:50 9 61:30 25 18:40 70 62:30 4 17:50 9 61:30 20:23 2 64:30 8 21:15 3 65:30 9 22:08 4 66:30 30 23:01 75 67:30 1 23:95 <		4'70	-	45.38
1 6·8i 6 48·36 2 7·54 7 49·35 8 8·30 8 50·34 4 9·07 9 51·34 15 9·86 60 52·33 6 10·66 1 53·33 7 11·47 2 54·33 8 12·30 3 55·32 9 13·14 4 56·32 20 13·99 65 57·32 1 14·85 6 58·31 2 15·73 7 59·31 3 16·61 8 60·31 4 17·50 9 61·30 25 18·40 70 62·30 4 17·50 9 61·30 8 21·15 3 65·30 9 22·08 4 66·30 8 21·15 3 65·30 9 22·08 4 66·30 30 23·95 6 68·30 2 2	9	5'39	4	46.37
2 7.54 7 49.35 8 8.30 8 50.34 4 9.07 9 51.34 15 9.86 60 52.33 6 10.66 1 53.33 7 11.47 2 54.33 8 12.30 3 55.32 9 13.14 4 56.32 20 13.99 65 57.32 1 14.85 6 58.31 2 15.73 7 59.31 8 10.61 8 60.31 4 17.50 9 61.30 25 18.40 70 62.30 6 19.31 1 63.30 7 20.23 2 64.30 8 21.15 3 65.30 9 22.08 4 66.30 8 21.15 3 65.30 9 22.08 4 66.30 8 21.15 3 65.30 9 22.08 4 66.30 8 21.15 8 68.30 2 24.89 7 69.29 8 25.84 8 70.29 8 25.84 8 70.29 8 26.80 9 71.29 8 30.64 3 75.29 8 30.64 3 75.29 9 31.61 4 76.29 40 32.58 85 77.29 1 33.56 6 78.29 2 34.54 7 79.29		6.09		47:36
2 7.54 7 49:35 8 30 8 50:34 9:07 9 51:34 15 9:86 60 52:33 6 10:66 1 53:33 7 11:47 2 54:33 8 12:30 3 55:32 9 13:14 4 56:32 20 13:99 65 57:32 1 14:85 6 58:31 2 15:73 7 59:31 3 16:61 8 60:31 4 17:50 9 61:30 25 18:40 70 62:30 6 19:31 1 63:30 7 20:23 2 64:30 8 21:15 3 65:30 9 22:08 4 66:30 30 23:01 75 67:30 1 23:95 6 68:30 2 24:89 7 69:29 3 25:84 <		6.81		48.36
8 8.30 8 50.34 9 9 51.34 15 9.86 60 52.33 6 10.66 1 53.33 7 11.47 2 54.33 8 12.30 3 55.32 9 13.14 4 56.32 20 13.99 65 57.32 1 14.85 6 58.31 2 15.73 7 59.31 3 16.61 8 60.31 4 17.50 9 61.30 25 18.40 70 62.30 6 19.31 1 63.30 7 20.23 2 64.30 8 21.15 3 65.30 9 22.08 4 66.30 30 23.01 75 67.30 1 23.95 6 68.30 2 24.89 7 69.29 3 25.84 8 70.29 4 26.80 <		7.24		
4 9.07 9 51.34 15 9.86 60 52.33 6 10.66 1 53.33 7 11.47 2 54.33 8 12.30 3 55.32 9 13.14 4 56.32 20 13.99 65 57.32 1 14.85 6 58.31 2 15.73 7 59.31 3 16.61 8 60.31 4 17.50 9 61.30 25 18.40 70 62.30 6 19.31 1 63.30 7 20.23 2 64.30 8 21.15 3 65.30 9 22.08 4 66.30 8 21.15 3 65.30 9 22.08 4 66.30 30 23.01 75 67.30 1 23.95 6 68.30 2 24.89 7 69.29 3 25.84 8 70.29 3 25.85 77.29 3 33.56 8 78.29 3 33.56 77.29	3	8.30	8	
6 10.66 1 53.33 7 11.47 2 54.33 8 12.30 3 55.32 9 13.14 4 56.32 20 13.99 65 57.32 1 14.85 6 58.31 2 15.73 7 59.31 8 16.61 8 60.31 4 17.50 9 61.30 25 18.40 70 62.30 6 19.31 1 63.30 7 20.23 2 64.30 8 21.15 3 65.30 9 22.08 4 66.30 8 21.15 3 65.30 9 22.08 4 66.30 30 23.01 75 67.30 1 23.95 6 68.30 2 24.89 7 69.29 8 25.84 8 70.29 8 25.84 8 70.29 8 25.84 8 70.29 8 26.80 9 71.29 8 27.75 80 72.29 8 30.64 3 75.29 9 31.61 4 76.29 40 32.58 85 77.29 1 33.56 6 78.29 2 34.54 7 70.29	4		9	
6 10.66 1 53.33 7 11.47 2 54.33 8 12.30 3 55.32 9 13.14 4 56.32 20 13.99 65 57.32 1 14.85 6 58.31 2 15.73 7 59.31 3 16.61 8 60.31 4 17.50 9 61.30 25 18.40 70 62.30 6 19.31 1 63.30 7 20.23 2 64.30 8 21.15 3 65.30 9 22.08 4 66.30 30 23.01 75 67.30 1 23.95 6 68.30 2 24.89 7 69.29 3 25.84 8 70.29 3 25.84 8 72.29 6 28.71 1 73.29 7 29.68 2 74.29 8 <	15	9.86	60	52°33
7 11'47 2 54'33 8 12'30 3 55'32 9 13'14 4 56'32 20 13'99 65 57'32 1 14'85 6 58'31 2 15'73 7 59'31 3 16'61 8 60'31 4 17'50 9 61'30 25 18'40 70 62'30 6 19'31 1 63'30 7 20'23 2 64'30 8 21'15 3 65'30 9 22'08 4 66'30 30 23'01 75 67'30 1 23'95 6 68'30 2 24'89 7 69'29 3 25'84 8 70'29 3 25'84 8 70'29 3 25'84 8 70'29 3 25'84 8 70'29 3 26'80 9 71'29 8 30'64 3 75'29 6 28'71 1 73'29 7 29'68 2 74'29 8 30'64 3 75'29 9 31'61 4 76'29 40 32'58 85 77'29 1 33'56 6 78'29 2 34'54 7 70'29		10.66	1	
8 12·30 3 55·32 9 13·14 4 56·32 20 13·99 65 57·32 1 14·85 6 58·31 2 15·73 7 59·31 3 16·61 8 60·31 4 17·50 9 61·30 25 18·40 70 62·30 6 19·31 1 63·30 7 20·23 2 64·30 8 21·15 3 65·30 9 22·08 4 66·30 30 23·01 75 67·30 1 23·95 6 68·30 2 24·89 7 69·29 3 25·84 8 70·29 3 25·84 8 70·29 3 27·75 80 72·29 8 30·64 3 75·29 8 30·64 3 75·29 8 30·64 3 75·29 9	7	11'47	2	
9	8		8	
1 14.85 6 58.31 2 15.73 7 59.31 3 16.61 8 60.31 4 17.50 9 61.30 25 18.40 70 62.30 6 19.31 1 63.30 7 20.23 2 64.30 8 21.15 3 65.30 9 22.08 4 66.30 30 23.01 75 67.30 1 23.95 6 68.30 2 24.89 7 69.29 3 25.84 8 70.29 4 26.80 9 71.29 85 27.75 80 72.29 86 28.71 1 73.29 7 29.68 2 74.29 8 30.64 3 75.29 9 31.61 4 76.29 40 32.58 85 77.29 1 33.56 6 78.29 2 34.54 7 79.29	9		4	56.32
1 14.85 6 58.31 2 15.73 7 59.31 3 16.61 8 60.31 4 17.50 9 61.30 25 18.40 70 62.30 6 19.31 1 63.30 7 20.23 2 64.30 8 21.15 3 65.30 9 22.08 4 66.30 30 23.01 75 67.30 1 23.95 6 68.30 2 24.89 7 69.29 3 25.84 8 70.29 4 26.80 9 71.29 8 30.64 3 75.29 8 30.64 3 75.29 8 30.64 3 75.29 9 31.61 4 76.29 40 32.58 85 77.29 1 33.56 78.29 34.54 7 79.29	20	13'99	65	57:32
2 15.73 7 59.31 3 16.61 8 60.31 4 17.50 9 61.30 25 18.40 70 62.30 6 19.31 1 63.30 7 20.23 2 64.30 8 21.15 3 65.30 9 22.08 4 66.30 30 23.01 75 67.30 1 23.95 6 68.30 2 24.89 7 69.29 3 25.84 8 70.29 4 26.80 9 71.29 35 27.75 80 72.29 4 26.80 9 72.29 7 29.68 2 74.29 8 30.64 3 75.29 9 31.61 4 76.29 40 32.58 85 77.29 1 33.56 6 78.29 2 34.54 7 79.29		14.85		58.31
3 16.61 8 60.31 4 17.50 9 61.30 25 18.40 70 62.30 6 19.31 1 63.30 7 20.23 2 64.30 8 21.15 3 65.30 9 22.08 4 66.30 30 23.01 75 67.30 1 23.95 6 68.30 2 24.89 7 69.29 3 25.84 8 70.29 4 26.80 9 71.29 8 27.75 80 72.29 6 28.71 1 73.29 7 29.68 2 74.29 8 30.64 3 75.29 8 30.64 3 75.29 9 31.61 4 76.29 40 32.58 85 77.29 1 33.56 78.29 34.54 7 79.29	2		7	
4 17.50 9 61.30 25 18.40 70 62.30 6 19.31 1 63.30 7 20.23 2 64.30 8 21.15 3 65.30 9 22.08 4 66.30 30 23.01 75 67.30 1 23.95 6 68.30 2 24.89 7 69.29 3 25.84 8 70.29 4 26.80 9 71.29 8 27.75 80 72.29 6 28.71 1 73.29 7 29.68 2 74.29 8 30.64 3 75.29 9 31.61 4 76.29 40 32.58 85 77.29 1 33.56 6 78.29 2 34.54 7 79.29	3	19.91	8	. 60'31
25 18·40 70 62·30 6 19·31 1 63·30 7 20·23 2 64·30 8 21·15 3 65·30 9 22·08 4 66·30 30 23·01 75 67·30 1 23·95 6 68·30 2 24·89 7 69·29 3 25·84 8 70·29 4 26·80 9 71·29 8 27·75 80 72·29 6 28·71 1 73·29 7 29·68 2 74·29 8 30·64 3 75·29 9 31·61 4 76·29 40 32·58 85 77·29 1 33·56 6 78·29 2 34·54 7 79·29	4		9	
6 19'31 1 63'30 7 20'23 2 64'30 8 21'15 3 65'30 9 22'08 4 66'30 30 23'01 75 67'30 1 23'95 6 68'30 2 24'89 7 69'29 3 25'84 8 70'29 4 26'80 9 71'29 85 27'75 80 72'29 6 28'71 1 73'29 7 29'68 2 74'29 8 30'64 3 75'29 9 31'61 4 76'29 40 32'58 85 77'29 1 33'56 6 78'29 2 34'54 7 79'29	25		70	
7 20.23 2 64.30 8 21.15 3 65.30 9 22.08 4 66.30 80 23.01 75 67.30 1 23.95 6 68.30 2 24.89 7 69.29 3 25.84 8 70.29 4 26.80 9 71.29 85 27.75 80 72.29 6 28.71 1 73.29 7 29.68 2 74.29 8 30.64 3 75.29 9 31.61 4 76.29 40 32.58 85 77.29 1 33.56 6 78.29 2 34.54 7 79.29			1	63:30
8 21'15 3 65'30 9 22'08 4 66'30 30 23'01 75 67'30 1 23'95 6 68'30 2 24'89 7 69'29 3 25'84 8 70'29 4 26'80 9 71'29 85 27'75 80 72'29 6 28'71 1 73'29 7 29'68 2 74'29 8 30'64 3 75'29 9 31'61 4 76'29 40 32'58 85 77'29 1 33'56 6 78'29 2 34'54 7 79'29	7		2	64.30
9 22'08 4 66'30 30 23'01 75 67'30 1 23'95 6 68'30 2 24'89 7 69'29 3 25'84 8 70'29 4 26'80 9 71'29 85 27'75 80 72'29 6 28'71 1 73'29 7 29'68 2 74'29 8 30'64 3 75'29 9 31'61 4 76'29 40 32'58 85 77'29 1 33'56 6 78'29 2 34'54 7 79'29	8		3	65.30
1 23.95 6 68.30 2 24.89 7 69.29 3 25.84 8 70.29 4 26.80 9 71.29 35 27.75 80 72.29 6 28.71 1 73.29 7 29.68 2 74.29 8 30.64 3 75.29 9 31.61 4 76.29 40 32.58 85 77.29 1 33.56 6 78.29 2 34.54 7 79.29	9		4	66.30
1 23.95 6 68.30 2 24.89 7 69.29 3 25.84 8 70.29 4 26.80 9 71.29 85 27.75 80 72.29 6 28.71 1 73.29 7 29.68 2 74.29 8 30.64 3 75.29 9 31.61 4 76.29 40 32.58 85 77.29 1 33.56 6 78.29 2 34.54 7 79.29	30	23.01	75	67:30
2 24·89 7 69·29 3 25·84 8 70·29 4 26·80 9 71·29 85 27·75 80 72·29 6 28·71 1 73·29 7 29·68 2 74·29 8 30·64 3 75·29 9 31·61 4 76·29 40 32·58 85 77·29 1 33·56 6 78·29 2 34·54 7 79·29	1		6	68.30
3 25.84 8 70.29 4 26.80 9 71.29 85 27.75 80 72.29 6 28.71 1 73.29 7 29.68 2 74.29 8 30.64 3 75.29 9 31.61 4 76.29 40 32.58 85 77.29 1 33.56 6 78.29 2 34.54 7 79.29	2		7	69.29
4 26.80 9 71.29 85 27.75 80 72.29 6 28.71 1 73.29 7 29.68 2 74.29 8 30.64 3 75.29 9 31.61 4 76.29 40 32.58 85 77.29 1 33.56 6 78.29 2 34.54 7 79.29	3	25.84	8	70.29
6 28.71 1 73.29 7 29.68 2 74.29 8 30.64 3 75.29 9 31.61 4 76.29 40 32.58 85 77.29 1 33.56 6 78.29 2 34.54 7 79.29	4	26.80	9	71'29
6 28.71 1 73.29 7 29.68 2 74.29 8 30.64 3 75.29 9 31.61 4 76.29 40 32.58 85 77.29 1 33.56 6 78.29 2 34.54 7 79.29	35	27.75	80	72'29
7 29.68 2 74.29 8 30.64 3 75.29 9 31.61 4 76.29 40 32.58 85 77.29 1 33.56 6 78.29 2 34.54 7 79.29	6	28.71	1	
8 30.64 8 75.29 9 31.61 4 76.29 40 32.58 85 77.29 1 33.56 6 78.29 2 34.54 7 79.29	7	29.68		
9 31.61 4 76.29 40 32.58 85 77.29 1 33.56 6 78.29 2 34.54 7 79.29	8	30.64	3	
1 33.56 6 78.29 2 34.54 7 79.29	9	31.61	4	
1 33.56 6 78.29 2 34.54 7 79.29	40	32.28	85	77:20
2 34.54 7 79.29		33.26	6	78.20
		34.24	7	
	3	35.21	8	80.29
4 36.20 9 81.39		36.20		81.29
90 82.29			90	
1 83.29				83.20
2 84.29				84.29

TABLE showing the number of years, (t), to be added to the age of the youngest of three lives, (x), (x+h), (x+h+k), to obtain the age of the three equivalent lives of equal ages, (x+t), (x+t), and (x+t).

 $\mathbf{OM}(5)$

 $\mu_x + \mu_{x+h} + \mu_{x+h+k} = 3\mu_{x+t}$ $a_{x:x+h:x+h+k} = a_{x+t:x+t:x+t}$

 $\mathbf{OM}(5)$

					ux:x+n:	₩ T# T#	· ux+t:x-				
		•			1	h					
k										· · ·	\boldsymbol{k}
	0	I	2	3	4	5	6	7	8	9	
0	.00	.68	1.37	2.09	2.82	3.57	4'34	5'12	5.91	6.73	0
1	. 34	1,03	1.74	2.46	3.50	3.96	4.73	5.25	6.33	7'14	1
2	·7 I	1.40	2,15	2.85	3.60	4'37	5.12	5.92	6.76	7.59	2
3	1.09	1.80	2.25	3.52	4.03	4.80	5.25	6.40	7.22	8.02	3
4	1.20	2.55	2.95	3.40	4.47	5.56	6.06	6.87	7.70	8.24	4
5	1.93	2.66	3.40	4.16	4'94	5.74	6.24	7:37	8.30	9.05	5
6	2'38	3,15	3.87	4.65	5.43	6.24	7.05	7.88	8.72	9.28	6
7	2.85	3.60	4'37	5.12	5.92	6.46	7.28	8.42	9.27	10.13	7
8	3.32	4'11	4.88	5.6 8	6.48	7:30	8'14	8.98	9.84	10.41	8
9	3.86	4.63	5'42	6.53	7.04	7.87	8.41	9.22	10.43	11.30	9
10	4.40	5.19	5.98	6.80	7.62	8.46	9.31	10'17	11'04	11'92	10
1	4.96	5.76	6.24	7:39	8.55	9.07	9.93	10.80	11.68	12.26	1
2	5.22	6.32	7'17	8.00	8.85	9.70	10.22	11'44	12.33	13.55	2
3	6.12	6.97	7.80	8.64	9.49	10.32	11.53	13,11	13.00	13.00	. 8
4	6.78	7.61	8.44	9.29	10.19	11.03	11.91	12.80	13.40	14.60	4
15	7.43	8.56	9.11	9 ·9 7	10.84	11.43	13.61	13.20	14.41	15.32	15
6	8.10	8.94	9.80	10.67	11.24	12.43	13.35	14.53	15'14	16.06	6
7	8.78	9.64	10.20	11.38	12.56	13.16	14.06	14'97	15.89	16.81	7
8	9.49	10.32	11.53	12.11	13.00	13.00	14.81	15.73	16.62	17.28	8
9	10.33	i1.00	11.97	12.86	13.76	14.67	15.28	16.20	17.43	18.36	9
20	10.06	11.84	12.73	13.63	14.23	15.44	16.36	17.29	18.55	19'16	20
1	11.72	12.61	13.20	14'41	15.32	16.54	17.16	18.10	19.03	19.98	1
2	12'49	13.39	14.29	15.50	16.13	17.05	17.98	18.91	19.86	20.80	2
8	13.58	14'19	15.10	16.01	16.94	17.87	18.80	19'74	20.69	21.64	8
4	14'09	15.00	15.91	16.84	17.77	18.40	19.64	20.29	21.24	22.49	4
25	14'91	15.82	16.75	17.67	18.61	19.22	20'49	21'44	22'40	23.32	25
6	15'74	16.66	17.29	18.2	19.46	20.41	21.36	22.31	23.27	24.53	6
7	16.28	17.21	18.44	19.38	20.33	21.58	22.53	23.18	24'14	25.11	7
8	17.44	18.37	19.31	20.52	21.50	22.12	23.11	24.07	25.03	26.00	8
9	18.30	19'24	30.18	21.13	22.08	23.04	24.00	24.96	25.93	26.90	9
30	19.18	20,15	21.07	22.03	22.08	23.94	24.90	25.86	26.83	27.81	30
1	20.06	21'01	21.96	22.92	23.88	24.84	25.81	26.77	27.75	28.72	1
2	20.96	51,01	22.87	23.82	24.79	25.75	26.42	27.69	28.66	29.64	2
3	21.86	22.82	23.78	24.74	25.70	26.67	27.64	28.62	29.29	30.24	8
4	22.77	23.73	24.6 9	25.66	26.63	27.60	28.57	29.24	30.2	31.20	4
35	23.69	24.65	25.62	26.29	27.55	28.23	29.20	30.48	31.46	32.44	35
6	24.61	25.58	26.24	27.22	28.49	29.47	30.44	31'42	32.40	33'39	в
7	25.24	26.21	27.48	28.45	29.43	30.41	31,39	32'37	33.35	34.33	7
8	26.48	27.45	28.42	29.40	30.37	31.32	32.33	33.33	34.30	35.59	8
9	27.42	28.39	29.37	30.34	31.35	32.30	33.59	34.27	35.5	36.54	9
40	28.36	29.34	30.35	31.30	32.58	33.56	34'24	35.53	36.51	37.20	40
1	29.31	30.59	31.52	32.52	33'23	34.55	35.50	36.19	37.18	38.17	1
2	30.52	31.52	32.53	33.51	34'19	32.18	36.19	37.15	38.14	39.13	2
3	31,53	32.51	33.10	34.12	35.16	36.14	37.13	38.13	39.11	40.10	8
4	32,19	33.12	34.12	35'14	36.13	37'11	38.10	39.09	40.08	41.07	4
45	33.12	34'14	35.13	36.11	37.10	38.08	39.07	40.06	41.02	42.02	45
В	34'12	35.10	36.00	37.08	38.07	39.06	40.02	41.04	42.03	43.03	6
7	35.00	36.02	37.06	38.02	39.04	40.03	41.03	42.03	43.01	44.00	7
8	36.06	37.05	38.04	39.03	40.03	41'01	42.00	42.99	43'99	44.98	8
9	37'04	38.03	39.03	40.01	41.00	41,00	42.08	43'97	44'97	45.96	9
	0	I	2	3	4	5	6	7	8	9	
<u> </u>	<u>' </u>		<u> </u>	<u> </u>	<u> </u>		<u> </u>				

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VALUES OF ANNUITIES ON TWO JOINT LIVES.

 $3^{\frac{1}{2}}_{\text{CENT.}}^{\text{PER}}$

						y					
$egin{array}{c} oldsymbol{x} \ \end{array}$	30	31	32	33	34	35	36	37	38	39	x
10 1 2	17'429 17'388 17'342	17.248 17.208 17.165	17'062 17'024 16'983	16.871 16.835 16.795	16.675 16.640 16.603	16'474 16'440 16'404	16.232	16.025 16.025	15.837 15.808 15.777	15.285 15.286	10 1 2
3 4 15	17.294 17.243	17.018	16.892 16.841		16.262 16.473	16.366 16.325 16.380		15.957 15.919 15.878	15.743	15.524 15.490	3 4 15
6 7 8	17.130 17.068 17.002	16.838 16.901	16.484 16.484 16.668	16.608 16.552 16.494	16.423 16.313	16.138 16.185 16.133	16.037 15.988 15.936	15.835 15.788 15.739	15.627 15.583 15.535	15.413 15.371 15.326	6 7 8
9 20 1	16.829 16.448	16.770 16.698	16.603 16.461	16.431 16.364 16.394	16.180 16.183	16.070 16.009 15.944	15.881 15.822 15.760		15'431 15'374	15 ² 77 15 ² 26 15 ¹ 71	9 20 1
3 4	16.607 16.216	16.342 16.369	16.384 16.303 16.217	16.020 16.145 16.020	16.020 12.896	15.875 15.803 15.726	15.694 15.552	15.200 15.370	15.183 12.183	15'114 15'053 14'988	3 4
25 6 7 8 9	16'419 16'318 16'102 16'102	16.276 16.178 16.076 15.969 15.857	16.127 16.032 15.934 15.830 15.722	15.972 15.882 15.786 15.687 15.582	15.725	15.646 15.562 15.474 15.380 15.283	15.474 15.394 15.308 15.219 15.125	15.296 15.218 15.137 15.051 14.961	15.112 15.037 14.959 14.876 14.790	14.849 14.774 14.695 14.612	25 6 7 8 9
30	15.865 80 81	15.740 15.618 81	15.609 15.491 15.367 32	15'472 15'358 15'238	15.330	15'181 15'075 14'963 14'846	15'027 14'924	14.867 14.767 14.664 14.555	14.699 14.604 14.504 14.400	14.526 14.434 14.338 14.238	30 1 2 3
81 80	1.948	2'114	79	78	14.856 84	14.23 14.296	14'585 14'462 14'332	14'322 14'196	14.290 14.172 14.024	14'133	4 35 6
79 8 7	2.106 5.183 5.183	2.108 5.361	2.289 2.377 2.464	2°472 2°565	2.664	76	75	14.065 37	13'927 13'794 38	13.483 13.624 13.219	7 8 9
6 5 74	2'329 2'398 2'465	2.439 2.514 2.587	2.548 2.629 2.708	2.656 2.743 2.829	2.761 2.856 2.948	2.865 2.966 3.065	3°075 3°180	3'292	73	72	
3 2 1 70	2.528 2.590 2.648 2.703	2.656 2.723 2.787 2.848	2.784 2.857 2.927 2.993	3.066 3.069	3°037 3°122 3°205 3°284	3.160 3.253 3.342 3.428	3.282 3.382 3.478 3.570	3.402 3.208 3.611 3.411	3.519 3.632 3.743 3.849	3.753 3.871 3.985	72 1 70
69 8 7 6	2.756 2.805 2.852 2.896	2.001 3.012 3.013	3°057 3°117 3°174 3°228	3°208 3°274 3°337 2°306	3.359 3.431 3.200	3.510 3.588 3.663 3.734	3.659 3.744 3.825	3·807 3·898 3·986 4·070	3.952 4.051 4.146	4.092 4.303 4.401	69 8 7 6
5 64 3	2.938 2.977 3.013	3.121 3.121 3.104	3·279 3·327 3·372	3.396 3.452 3.505 3.554	3.565 3.626 3.684 3.739	3.801 3.865 3.925	3.902 3.976 4.042 4.111	4.150 4.226 4.297	4.236 4.323 4.405 4.483	4.494 4.583 4.668	5 64 3
2 1 60	3°047 3°079 3°109	3.229 3.264 3.297	3.414 3.453 3.490	3.645 3.685	3.790 3.839 3.884	3.981 4.084 4.084	4'173 4'231 4'286	4.365 4.429 4.489	4.557 4.626 4.692	4.748 4.823 4.895	2 1 60
	81	80	79	78	77	76	75	74	73	72	

Ow

VALUES OF ANNUITIES ON TWO JOINT LIVES.

 $3^{1}_{\bar{2}}$ per cent.

					. 3	/					~
\boldsymbol{x}	40	41	42	43	44	45	46	47	48	49	\boldsymbol{x}
10	15.384	15'148	14'907	14.660		14'147	13.881	13.910	13.333	13.021	10
1	15.328	15'124	14.883		14.385		13.863	13.593	13.317	13.036	1 2
3	15.330	15.068	14.858 14.831		14.363 14.338	14'106	13.843	13.574	13.580	13.001	3
4	15.267	15.037	14.801		14.312	14.028	13.797	13.231	13.529	13.081	4
	12.531	15.003	14'770	_	14.583	14.030	13.771	13.202	13.536	12.060	15
15 6	15'194	14.968	14.735	14'497	14.252	14.001	,	13'481	13,511	12'936	6
7	12.123	14'929	14.699		14'219		13.714		13.182	13.011	7
8	15.110	14.888	14.660		14.183	13.936	13.682	13'422	13.126	12.884	8
9	15.064	14.844	14.618		14.146	13.900	13.648	13.390	13.126	12.856	9
20	15.012	14'797	14.273	14'343	14'105	13.862	13.612	13.356	13.093	12.825	20
ī	14.963	14.748	14.256		14.062	13.821	13.223	13.319	13.029	12.792	1
2	14.908	14.695	14.475	14.250	14.017	13.778	13.232	13.580	13'022	12.757	2
3	14.849	14.639	14.422		13.969	13.733	13.489	13.530	12.083	12.451	3
4	14.788	14.280	14.366	14'146	13.918	13.684	13.443	13.196	12.942	12.682	4
25	14.723	14.219	14.304	14.089	13.862	13.634	13.392	13.120	12.899	12.641	25
6	14.652	14.453	14.242		13.808		13.344	13.105	12.853	12.298	6
7	14.283		14.179		13.749		13.500		12.805	12.252	7
8	14.207	14.313	14'111		13.686	13.464	13.534	12.008	12.754	12.204	8
9	14.458	14.532	14.038	I	13.621	13.401	13.175	12'941	12.701	12.454	
30	14.342	14.124	13.962	13.761	13.252	13.336	13.113	12.883	12.645	12'401	30
	14.257	14.073	13.883		13.480		13.047	12.820	12.286	12.345	1 2
2	14'166	13.863	13.799		13.403	13.118	12.928	12.455	12.23	12.287	3
3 4	13.068		13.211		13.538		12.829	12.613	13,390	15.160	4
35	13.861	13.694	13.20		13.149	12.952	12.748	12.237	12.318	12.001	35
8	13.750	13.282	13.417		13.022	12.863	12.663	12.455	12.241	12.019	6
7	13.632	13'474	13.300	13.136	12.956	12.768	12.23	12.370	13,160	11.942	7
8	13.208	13.355	13.194	-	12.851	12.668	12.478	12.279	12.073	11.860	8
9	13.378	13.550	13.074		12.40	12.262	12.376	_	11.085	11.774	9
40	13.545	13.098	12.947	12.789	12.624	12'451	12.270	12.081	11.886	11.682	40
	40	12.959	12.814	12.222	12.500	15,335	12.124	11.860	11.674	11.282	1 2
ł	71	41	42	15.383	12.533	12.077	11.015	11.40	11.200	11.372	3
l		70		43	12.089		11.779	11.613	11'438	11.526	4
71 70	3'996	4.546	69		44	11.492	11.639	11.478	11.309	11.133	45
		ŀ	41.7.5	68		45	11,401	11.336	11.14	11,003	6
69 8	4'235	4.371	4.204	4.769	67		46	11.184	11.031	10.866	7
1 7	4'458	4.492 4.609	4 ^{.6} 33	4'901	5.041	_ 66	6-	47	10.880	10.455	8
6	4.263	4.722	4.877	5.029	5.177	5.320	65	64	48	10.240	9
5	4.663	4.830	4.993		5.307		5.602	-04	63	49	
64	4.759	4.933	5.103		5.433	5.285	5.746	5.895		62	
3	4.850	5.031	5.500		5.224		5.882		6.190	<u></u>	
2	4.937	5'124	5.309		5.669	5.843	6.013	6.177	6.336		62
60	5.001	5°213	5°405 5°495	5.691	5°779 5°884	5.960 6.02	6.137 6.527	6.310	6.477	6.481	60
 	71	70	69	68	67	66	65	64	63	62	
L		, -	77						1 -3		

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VALUES OF ANNUITIES ON TWO JOINT LIVES.

31 PER 22 CENT.

					3	y					
x	50	51	52	53	54	55	56	57	58	59	\boldsymbol{x}
10	12.764	12'471	12'174	11.872	11.266		10'943	10.626	10.308	9.987	10
1 2	12.749	12.457	12'161	11.860		11.246	10.034	10.608	10.300	9'980 9'972	1 2
3	12.717	12'427	12,135	11.833	11.230	11,553	10'912	10.208	10.585	9.963	3
4	12.698	12'410	12'116	11.818	11.216	11,510	10,000	10.284	10.51	9.953	4
15	12.677	12.391	12.098	11'802	11.200	11,162	10.887	10.274	10.529	9.942	15
6 7	12.633	12.348	12.028	11'783		11,12	10.872	10.260	10.233	9.018 6.031	6 7
8	12.607	12.324	12.036	11.743	11'446	11'144	10.839	10.230	10.518	9.004	8
9	12.280	12.298	12.013	11.720	' '	11.154	10.850	10.213	10,505	9.889	9
20 1	12.220	12°271	11.020	11.626	11.403	11,080	10.800	10.494	10,199	9·873 9·856	20 1
2	12.487	12.511	11,030	11.643	11.370	11.026	10.429	10.474	10'147	9.838	2
8	12.452	12'178	11.899	11.614	11.324	11,030	10.732	10.431	10,150	9.818	8
4	12.416	12'143	11.866	11.283	11.596	11.003	10.707	10'407	10'104	9'797	4
25 6	12.377	12.102	11.832 11.796	11.221		10'975	10.621	10.385	10.080	9.776 9.753	25 6
7	15.503	12.028	11.757	11.481		10.013	10.623	10,358	10,030	9.729	7
8	12'248	11.086	11.717	11.444		10.880	10.205	10.500	10,003	9.704	8
9	12.201	11.941	11.675	11'404		10.842	10.229	10.569	9'974	9.677	9
30 1	12'151	11.894 11.844	11.631	11.362	11.088 11.047	10.220	10.222	10.337	9°945	9.649 9.620	30 1
2	12.043	11.792	11.232	11.572	11'004	10.430	10.451	10.198	9.881	9.290	2
3 4	11.082	11.432	11'484	11'224		10.687	10,411	10,131	9.846	9.557	3 4
35	11.823	11.018	11.429	11,110	ا ۔ ا	10.242	10.369	10,020	9.809	9°524 9°488	35
6	11.789	11.223	11,311	11.001		10.242	10.278	10.006	9.730	9.450	6
7	11.414	11.485	11.546	11,000	10.49	10,491	10,558	9.960	9.687	9.409	7
8 9	11.228 11.228	11.412	11'177	10.868		10'434	10,118	9.857 9.857	9.640	9.367	8
40	11.471	11.52	11.022	10'794	10.222	10,319	10.028	6.801	9.239	9.272	40
1	11.379	11.162	10.944	10.416		10.541	9.994	9.741	9.483	9.550	1
2 8	11.580	11.072	10.857	10.634		10.168	9.925	9.677	9.423	9.164	2
4	11.140	10.869	10.463	10.246	10,331	10.000 10.000	9 ⁸⁵²	9.608 9.235	9°359 9°290	9.104 9.040	3 4
45	10'949	10.757	10.228	10.325		9,018	9.690	9.457	9.217	8.972	45
6	10.825	10.640	10'446	10.546	10.038	9.823	9.601	9.373	9.139	8.899	6
7 8	10.222	10.383	10.328	10.133	6.818 6.631	9.722 9.615	9.206 9.406	9.189	9.055 8.066	8·821 8·737	7 8
9	10.411	10'244	10.040	9.888	9.698		9,298	6.088	8.871	8.648	9
50	10.528	10,008	9.930	9.754	9.245	9.382	9.185	8.980	8.770	8.553	50
	50	9'944	9.783	9.614	9'438	9.255	9.064	8.867	8.663	8.452	1
	61	51	9.628	9.467 9.312	9°297 9°149	8.080 8.151	8.937 8.803	8·746 8·619	8·549 8·429	8·345 8·232	2 3
61	6.795	60			8.994	8.831	8.662	8.485	8.305	8.113	4
60	6.945	7.103				8.676	8.514	8:344	8.168	7.985	55
							8.359	8·197 8·042	8.028 7.880	7.852	6 7
								0 042	7.727	7.266	8
										7.413	9
	61	60	52	53	54	_55	·56	57	58	59	

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VALUES OF ANNUITIES ON TWO JOINT LIVES.

31 PER 22 CENT.

					3	y					
\boldsymbol{x}	60	ÓΙ	62	63	64	65	66	67	68	69	\boldsymbol{x}
10	9.665	9'342	9.018	8.694	8.371	8.049	7.729	7'411	7:096	6.784	10
1	9.658	9.336	9.013	8.689	8.366	8.045	7.725	7.408	7:093	6.782	1
2	9.651	9.329	9.006	8·684 8·677	8.361	8.040 8.032	7.716 7.716	7'404	7.089	6·778 6·775	2 3
3 4	9.634 9.634	9'313 9'321	8 · 999	8.670	8·356 8·349	8.033	7'711	7.400	7.081	6.771	4
	9.624		8.983	8.662	8.342	8.053	7.705	7.389	7.076	6.766	15
15 6	9.613	9'304	8.974	8.654	8.334	8.019	7.699	7.384	7.071	6.762	6
7	9.601	9.583	8.964	8.645	8.326	8.008	7.692	7.377	7.065	6.757	7
8	9.288	9.271	8.953	8.635	8.317	7'999	7.684	7:370	7.059	6.751	8
9	9.574	9.258	8.941	8.624	8.306	7:990	7.675	7.362	7.052	6.744	9
20	9.229	9.244	8.928	8.612	8.296	7 ·9 80	7.666	7'354	7.044	6.737	20
1	9.244	9.229	8.915	8.299	8.584	7.970	7.656	7:345	7.036	6.730	1
2	9.226	9.214	8.900	8.586	8.271	7.958	7.646	7:335	7:027	6.722	2
3 4	9.209	9.197	8.884	8.571	8.258	7.946	7.634	7.325	7.018	6.413	3 4
	9.489	9.179	8.868	8.226	8.244	7.933	7.622	7'314	7.007	6.704	1
25	9.469	9.161	8·851 8·832	8.240	8·229 8·214	7.919	7.610	7:302 7:290	6.99 7 6.986	6.694 6.684	25 6
6 7	9°448 9°425	9'141	8.813	8·523 8·505	8'197	7 [.] 904	7.596 7.583	7.277	6.974	6.673	7
8	9.402	9.098	8.793	8.486	8.180	7.873	7.568	7.264	6.961	6.662	8
9	9.377	9.075	8.771	8.467	8.163	7.857	7.552	7'249	6.949	6.620	9
30	9.352	9.051	8.749	8 446	8.143	7.839	7.536	7.235	6.935	6.637	30
1	9.325	9.026	8.726	8.425	8.153	7.821	7.20	7.219	6.921	6.625	1
2	9.296	0.000	8.702	8.403	8.103	7.802	7.202	7.203	6.906	6.611	2
3	9.266	8.972	8.676	8.379	8.080	7.782	7.484	7.186	6.891	6.297	3
4	9'234	8.943	8.649	8.324	8.024	7.761	7.464	7.169	6.874	6.282	4
85	9,501	8.912	8.621	8.327	8.033	7.738	7:444	7.120	6.857	6.266	35
6 7	9.166	8.879	8.290	8·300 8·370	8.007 7.080	7.715	7'422	7'130	6.839	6.235 6.235	6 7
8	6.080 6.150	8.845 8.808	8·558 8·524	8.239	7.95I	7.663	7'399 7'375	7.109	6.800	6.214	8
9	9.047	8.769	8.488	8.502	7.921	7.635	7.349	7.063	6.778	6.494	9
40	0.001	8.727	8.449	8.169	7.888	7.605	7.321	7:037	6.755	6.473	40
ĩ	8.953	8.682	8.408	8.131	7.852	7.572	7.291	7.010	6.730	6.451	1
2	8.901	8.634	8.363	8.000	7.814	7.537	7.260	6.981	6.403	6.426	2
3	8.846	8.285	8.316	8.046	7.774	7.200	7.225	6.950	6.675	6.400	3
4	8.786	8.527	8.264	7.999	7.730	7.460	7.188	6.916	6.644	6.372	4
45	8.722	8.468	8.510	7.948	7.684	7.417	7.149	6.880	6.611	6.342	45
6	8.654	8.405	8.121	7.893	7.633	7'371	7.106	6.841	6.226	6.309	6
7 8	8·581 8·503	8·336 8·264	8.030	7.835	7.579	7.321 7.367	7.060	6·799 6·753	6·536 6·495	6.274 6.236	7 8
9	8.420	8.186	7.947	7.772	7.521	7.209	6.928	6.704	6.420	6.192	9
50	8.331	8.103	7.870	7.633	7.392	7.148	6.901	6.652	6.403	6.121	50
1	8.536	8.014	7.787	7.226	7.320	7.082	6.840	6.296	6.320	6.104	1
2	8.132	7.920	7.699	7.474	7.244	7.011	6.774	6.236	6.392	6.023	2
3	8.039	7.820	7.606	7:386	7.163	6.935	6.404	6.471	6.536	5.998	8
4	7.916	7.714	7:506	7.293	7.076	6.855	6.630	6.402	6.171	5.939	4
55	7.796	7.601	7.401	7.192	6.984	6.769	6.220	6.328	6.103	5.877	55
6	7.671	7.483	7.289	7.090	6.886	6.677	6.465	6.249	6.031	5.810	6
7 8	7.538	7:358	7.171	6·979 6·863	6.782 6.673	6·581 6·478	6·375 6·279	6°166 6°077	5.871 2.871	5.738 5.662	7 8
9	7°399 7°254	7°226 7°088	7.047 6.917	6.740	6.228	6.370	6.179	5.983	5.783	5.281	9
	60	6I	62	63	64	65	66	67	68	69	

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VALUES OF ANNUITIES ON TWO JOINT LIVES.

 $3^{\frac{1}{2}}_{\text{CENT.}}^{\text{PER}}$

					- 3	y					
x	70	71	72	73	74	75	76	77	78	79	\boldsymbol{x}
10	6.477	6.173	5.875	5.282	5.592	5.012	4'741	4.474	4'215	3.963	10
1	6.474	6.171	5.873	2.281	2.534	5.013	4.740	4'473	4.514	3.963	ì
2	6.471	6.169	5.871	5.22	5.565	5.013	4.738	4.472	4.513	3.961	2
3	6.468	6.166	5.868	5.219	2.300	2,010	4.737	4.470	4.511	3.960	3
4		6.163			5.588	2.008			1 -		4
	6.465		5.866	5`574	_		4.735	4.469	4.510	3.959	
15	6.461	6.129	5.863	5.221	5.582	5.0 06	4.733	4.467	4.508	3.958	15
6	6.456	6.122	5.859	5.268	5.383	5.003	4.431	4.462	4.502	3.956	6
7	6.452	6.121	5.855	5.264	5.279	2.001	4.728	4 463	4.502	3'954	7
8	6.446	6.146	5.821	5.260	5.276	4'997	4'725	4.460	4.503	3.952	8
9	6.440	6,141	5.846	5.226	5.525	4'994	4.722	4.458	4.300	3.920	9
20	6.434	6.132	5.841	5.221	5.268	4.990	4.719	4'455	4'197	3.948	20
1	6.427	6.139	5.835	5.246	5.263	4.986	4.715	4.421	4.194	3.942	1
2	6.420	6.133	5.829	5.241	5.528	4.982	4.711	4.448	4.191	3.942	2
3	6.412	6.112	5.823	5.232	5.53	4.977	4.707	4.444	4.188	3.939	3
4	6.404	6.102	5.816	5.23	5.247	4.972	4.702	4.440	4.184	3.936	4
_ I		_ `	-				ı	i .		i .	
25	6.395	6.099	5.808	5.255	5'241	4.966	4.697	4.435	4.180	3.932	25
6	6.382	6.001	2.800	5.212	5.232	4.960	4.692	4'431	4.176	3.929	6
7	6.376	6.082	5.792	5.202	5.228	4.954	4.687	4.426	4'172	3.922	7
8	6.362	6.073	5.784	5.200	2.551	4.948	4.681	4.421	4'167	3.921	8
9	6.322	6.063	5.775	5.492	5.214	4.941	4.675	4.412	4.165	3.916	9
80	6.343	6.025	5.765	5.483	5.506	4'934	4.669	4.410	4.122	3.912	30
1	6.331	6.045	5.756	5'474	5.198	4'927	4.662	4.404	4.12	3.907	1
2	6.319	6.030	5'745	5.465	2,100	4.920	4.655	4.398	4.146	3.003	2
3	6.306	6.018	5.735	5.455	2.181	4.912	4.64 8	4.391	4'141	3.897	3
4	6.293	6.006	5.724	5'445	5.172	4.903	4.641	4.382	4.132	3.892	4
85	6.278	5.993	5.412	5.435	5.163	4.895	4.633	4.378	4.158	3.886	35
6	6.563	5.97 9	5.400	5.423	5.125	4.886	4.625	4.370	4'122	3.880	6
7	6.342	5.965	5.686	5.412	5.145	4.876	4.616	4.365	4.112	3.874	7
8	6.531	2.950	5.673	5.399	2.130	4.866	4.607	4.354	4.108	3.868	8
9	6.513	5.934	5.658	5.386	2.118	4.855	4.598	4.346	4,100	3.861	9
				l.	1 - 1					_	
40	6.193	5.916	5.642	5.371	5.102	4.844	4.284	4.336	4.092	3.853	40
1	6.173	5.898	5.625	5.356	5.092	4.831	4.576	4.326	4.083	3.845	1
2	6.121	5.878	5.607	5.340	5.077	4.818	4.264	4.316	4.073	3.837	2
3	6.127	5.856	5.288	5.322	2.001	4.804	4.221	4.304	4.063	3.828	3
4	6.103	5.833	5.267	5.303	5.044	4.788	4.238	4.595	4.025	3.818	4
45	6.074	5.808	5.544	5.583	5.036	4.772	4.23	4.579	4.040	3.802	45
6	6.044	5.481	5.20	5.561	5.002	4.754	4.202	4.564	4.027	3.796	6
7	6.013	5.752	5.493	5°237	4'984	4.735	4.489	4'249	4.013	3.784	7
8	5.978	5.720	5.465	2.511	4.961	4'714	4.470	4.535	3.998	3.770	8
9	5,040	5.686	5'434	5.183	4.935	4.691	4.420	4.514	3.985	3.755	9
50	5.900	5.650	5.400	5.123	4.908	4.666	4.428	4'194	3.964	3.740	50
1	5.857	5.610	5.362	2.131	4.879	4.640	4.404	4'172	3.945	3.722	1
2	5.810	5.268	5.356	5.082	4.847	4.611	4.378	4'149	3'924	3'704	2
3	5.760	5.25	5.584	5.047	4.813	4.280	4.320	4.154	3.902	3.684	3
4	5.706	5.473	2.539	5.007	4.776	4.246	4.330	4.097	3.877	3.662	4
_ [5.649					l .	4.588	4.067	3.851	3.638	55
55	5.287	5.420	5.191	4.963	4.736	4.211		4.036	3.823	3.613	6
6		5.364	5'140	4.86	4.693	4'472	4.52		3.792	3.282	7
8	5.21	5.303	5.084	4.865	4.647	4.430	4.512	4.002	3.759	3.226	8
9	5.451	5.538	5.022	4811	4.298	4.382	4.174	3.026	3.723	3.24	9
-	5.376	5.170	4.962	4.753	4.242	4.337	4.131	3.926			
	70	71	72	73	74	75	76	77	<i>7</i> 8	79	1
		<u></u>	<u> </u>		, - •		<u>, </u>				

Om

VALUES OF ANNUITIES ON TWO JOINT LIVES.

 3^{1}_{2} per cent.

					į	/					
\boldsymbol{x}	80	81	82	83	84	85	86	87	88	89	x
10	3.720	3.484	3.257	3.039	2.829	2.629	2.437	2.254	2.080	1.912	10
1	3.719	3.483	3.257	3.039	2.829	2.628	2.437	2.224	2.080	1.912	1
2	3.718	3.483	3.256	3.038	2.829	2.628	2'437	2.54	2.080	1.912	3
3 4	3.717	3.482 3.481	3.525	3°037	2·828 2·827	2.627 2.627	2°436 2°436	2.223	2.080	1.912	4
1	3.716		3'255		2.827	2.626				-	15
15 6	3.412	3.480	3°254 3°253	3.036	2.826	2.626	2°435 2°434	2'252	2.079	1'914	6
7	3.713	3'479 3'477	3.521	3.034	2.825	2.625	2.434	2 251	2.078	1,013	7
8	3.710	3.476	3.520	3.033	2.824	2.624	2.433	2.320	2.077	1,013	8
9	3.708	3.474	3.549	3,035	2.823	2623	2'432	2.50	2.077	1,015	9
20	3.706	3'472	3'247	3.030	2.822	2.622	2.431	2'249	2.076	1,011	20
ī	3.704	3.470	3'245	3.058	2.820	2.621	2.430	2.248	2.072	1.011	1
2	3.701	3.468	3'243	3.027	2.819	2.619	2.429	2.247	2.074	1,010	2
3	3.699	3.466	3.541	3.052	2.817	2.618	2.428	2.346	2.073	1,000	3
4	3.696	3.463	3.539	3.053	2.812	2.616	2.426	2.542	2.025	1.908	4
25	3.692	3.460	3.536	3.051	2.813	2.614	2.425	2.243	2.071	1.907	25
6	3.689	3.457	3'234	3.018	2 8 1 1	2.613	2.423	2,545	2.070	1.006	6 7
7	3.686	3.454	3.531	3.019	2.809	2.600 2.611	2'421	2.240	2.068	1.905	8
8 9	3.682	3'451	3.228	3,011	2.807	2.607	2'420	2.239	2.066	1'904 1'903	9
	3.678	3'447		1 -	2.802	•	2.416		2.064		30
30	3.674	3.444	3.518	3.008	2'799	2.60 2	2'414	2.232	2.004	1,000	i
2	3.666	3.440	3.512	3 002	2.796	2.600	2'412	5.535	2.001	1.898	2
3	3.661	3.432	3,511	2,000	2.794	2.257	2'410	2,530	2.020	1.897	3
4	3.656	3.428	3.508	2.995	2.791	2.292	2.407	2.558	2.028	1.892	4
35	3.621	3.423	3.504	2.002	2.788	2.292	2'405	2.556	2.026	1.894	35
В	3.646	3.419	3.199	2.988	2.784	2.289	2 402	2.554	2.024	1.892	6
7	3.640	3.414	3.192	2.984	2.781	2.286	2.400	2.33I	2.025	1.890	7
8	3.635	3.409	3,191	2.980	2.777	2.283	2.392	2.510	2.020	1.889	8
9	3.628	3.403	3.186	2.976	2.774	2.280	2.394	2.519	2.042	1.887	9
40	3.622	3'397	3.181	2.971	2.770	2.246	2.301	2.514	2.042	1.882	40
	3.615	3.391	3.172	2.966	2.765	2.272	2.388	2'211	2.043	1.882	1
2	3.607	3.382	3.169	2.961	2'761	2.268	2.384	2.308	2.040	1.880 1.878	2 3
3 4	3.259	3'377	3.126	2.956	2.756	2.264	2·380 2·376	2.204	2.034	1.875	4
	3.201	1		1	' -	2.229		2'197	2'030	1.872	45
45 6	3.281	3'352	3.141	2'943	2'745 2'739	2°554 2°549	2·372 2·367	2.103	2'027	1.869	6
7	3.260	3'342	3,135	2.028	2.732	2.243	2.362	5.188	2.053	1.862	7
8	3.248	3.332	3.155	2.050	2.432	2.537	2.356	2.183	2.019	1.861	8
9	3.232	3.350	3.115	2.911	2.414	2.23	2.320	2.178	2.014	1.857	9
50	3.251	3.308	3.101	2.901	2.708	2.252	2.344	2.172	2.009	1.823	50
1	3.202	3'294	3.089	2.891	2.699	2.214	2.336	2,199	2.003	1.848	1
2	3.489	3'279	3.076	2.879	2.688	2.202	2.358	2,120	1.992	1.843	2
3	3.471	3.564	3.062	2.867	2.677	2.495	2,350	2,121	1,001	1.837	3
4	3.452	3.546	3.047	2.853	2.662	2.484	5.311	2.143	1'984	1.831	4
55	3.431	3.558	3.030	2.838	2.652	2.473	2.300	2'134	1.976	1.824	55
6	3.408	3.504	3.013	2.822	2.638	2.460	2.289	2.122	1'967	1.817	6
7 8	3.383	3.165	2.991 2.992	2.805 2.486	2.606	2°447 2°432	2.278	2'114	1.958	1.800	.8
9	3.357 3.328	3.136	2.949	2.766	2.288	2.416	5.521	2,001	1.938	1.491	9
	80	81	82	83	84	85	86	87	88	89	
	30	<u> </u>	UE	<u> </u>	J 4	<u> </u>		٥,	- 30	~y	<u> </u>

Om

VALUES OF ANNUITIES ON TWO JOINT LIVES.

 $3^{\frac{1}{2}}_{\text{CENT.}}^{\text{PER}}$

						y							
x	90	91	92	93	94	95	96	97	98	99	100	IOI	x
10	1.758	1.911	1'470	1'342	1.519	1.102	'994	.904	.816	·694	·545	.321	10
1	1.758	1.911	1'470	1'342	1.516	1'104	994	904	.816	694	545	.321	1
2	1.758	1.911	1'470	1.341	1,519	1'104	'994	904	.816	694	545	.321	2
3	1.758	1.911	1'470	1'341	1.519	1'104	994	904	.816	.694	°545	.321	3
4	1.757	1.911	1.470	1,341	1.512	1'104	'994	.904	.812	.694	545	.321	4
15	1.757	1.610	1'469	1.341	1.512	1'104	'994	.904	815	.694	'545	'321	15
6	1.757	1.610	1.469	1'341	1.512	1'104	.993	904	.812	694	545	321	6
7	1.756	1.910	1.469	1'340	1.512	1'104	.993	904	.812	694	545	321	7
8	1.756		1.469	1.340	1.512	1.103	.993	904	·815	.694	545	'321	8
9	1.755	1.609	1'468	1.340	1'214	1,103	'993	.903	815	·694	·545	.321	9
20	1.755	1.608	1.468	1.340	1'214	1,103	.993	.903	815	·694	. 545	321	20
1	1.754	1.608	1.467	1.339	1.514	1.103	992	903	815	694	545	.321	1
2	1.723	1.602	1.467	1.339	1.513	1'102	992	.903	·814	.693	544	.321	2
8	1.753	1.602	1.466	1.338	1,513	1.103	992	903	. 814	. 693	544	.321	3
4	1.752	1.606	1.466	1,338	1.515	1'102	.991	902	'814	.693	·544	'321	4
25	.1.751	1.602	1.465	1.332	1.515	1,101	.991	902	·814	693	·544	.321	25
8	1.750		1.464	1.334	1'211	1,101	.991	902	814	693	544	.320	6
7	1.749		1.464	1.336	1.511	1,100	.990	.901	.813	692	544	.320	7
8	1'748	1.603	1.463	1.332	1'210	1,100	.990	100.	.813	692	544	.320	8
9	1.747	1.603	1.462	1.332	1,510	1,000	.989	.000	.813	·692	`544	.320	9
3 0	1.746	1.601	1.461	1.334	1.500	1,000	·989	.000	812	692	543	.320	30
1	1.745	1,600	1.460	1.333	1.508	1,008	989	.900	.812	.691	543	'320	1
2	1.744	1.299	1.459	1,335	1,508	1.008	.988	.899	·812	.691	543	.320	2
3	1.742	1.298	1.458	1.331	1.502	1.092	.987	.899	.811	.691	·543	.320	8
4	1.41	1.296	1'457	1,330	1.509	1.096	.987	·898	.811	.691	·543	.320	4
35	1.739	1.292	1.456	1.330	1.502	1.096	·986	·898	.810	·690	.242	.320	35
6	1.738		1.455	1.329	1.502	1.092	.986	.897	.810	.690	.242	.320	6
7	1.737	1.293	1'454	1.358	1'204	1.094	.985	.897	.809	·690	542	.319	7
.8	1.735	1.291	1.423	1.322	1,503	1,093	.984	.896	.809	.689	542	.319	8
9	1.433	1,200	1.452	1.326	1.505	1.093	·984	·896	.809	.689	·541	.319	9
40	1.731	1.288	1.450	1.324	1,501	1.003	·98 3	.895	·8o8	.688	.241	.319	40
1	1.730	1.282	1'449	1.323	1.500	1,001	•982	.894	.807	.688	541	.319	1
2	1.728	1.282	1.447	1.322	1.199	1,000	.981	.894	.807	.688	.241	.319	2
3	1.452	1.283	1.446	1.320	1.108	1.080	.981	.893	.806	.687	.240	.319	3
4	1.453	1.281	1.444	1.319	1.196	1.088	.980	.892	.806	.687	.240	.319	4
45	1.450	1.279	1'442	1.317	1.192	1.089	'979	.891	.802	·686	.240	.318	45
В	1.418		1,440	1.312	1,193	1.082	977	·890	.804	·685	·539	.318	6
7	1.715	1.24	1.438	1.313	1,165	1.084	976	.889	.803	.685	539	318	7
8	1.411	1.241	1.435	1.311		1.082	975	·888·	.802	684	:538	.318	8
9	1.408	-	1'433	1.309	1			.887	.801	.683	'538	317	9
50	1.404		1'430		1.186	1.049	·972	.885	.800	.682	537	317	50
1	1.200		1.427		1.183	1.077	970	·884	799	.681	536	317	1
2	1.695		1.423	1.301	1,181	1.04	968	.882	798	.680	:536	317	2
8	1.690		1'420	1,508		1.072	966	·881	796	·679	535	316	3 4
4	1.682	1.248	1.412	1.594	1.172	1,060	964	.879	'795	.678	°534	.316	
55	1.679		1'411		1'172	1.067	962	.877	793	.677	533	315	55
6	1.673	1.237	1,406	1.586	i	1'064	959	.874	791	675	532	315	6
7 8	1.666		1,401	1.585	1.160	1.000	.956	·872	·789	674	.231	315	7 8
Î	1.620	1.212	1.389	1.271	1.122	1.023	953	·869	.787 .784	·672 ·670	.230	314	9
 —							.950				·529	.313	
	90	91	92	93	94	95	96	97	98	99	100	IOI	

$O^{M(5)}$

TABLES OF UNIFORM SENIORITY.

TWO, THREE, AND FOUR JOINT LIVES.

For Examples of application of Tables, see page 252.

Table showing the number of years, (t), to be added to the age of the younger of two lives, (x), (x+h), to obtain the age of the two equivalent lives of equal ages, (x+t), and (x+t).

OM(5)

 $\mu_x + \mu_{x+h} = 2\mu_{x+t}$ $a_{x;x+h} = a_{x+t;x+t}$

 $\mathbf{M}(5)$

	<i>ux</i> ; <i>x</i>	$+h = a_x$	+t;x+t
h	t	h	t
0 1 2	0.02 0.21	45 6 7	37 [.] 48 38 [.] 46 39 [.] 44
3	1.60	8	40'43
4	2.18	9	41'42
5	2.48	50	42'41
6	3'40	1	43'40
7	4'04	2	44'39
8	4'70	3	45'38
9	5'39	4	46'37
10	6.09	55	47'36
1	6.81	6	48'36
2	7.54	7	49'35
3	8.30	8	50'34
4	9.07	9	51'34
15	9.86	60	52°33
6	10.66	1	53°33
7	11.47	2	54°33
8	12.30	8	55°32
9	13.14	4	56°32
20 1 2 3 4	13.99 14.85 15.73 16.61 17.50	65 6 7 8 9	57'32' 58'31 59'31 60'31
25	18.40	70	62'30
6	19.31	1	63'30
7	20.23	2	64'30
8	21.15	3	65'30
9	22.08	4	66'30
30	23.01	75	67:30
1	23.95	6	68:30
2	24.89	7	69:29
8	25.84	8	70:29
4	26.80	9	71:29
85	27.75	80	72'29
6	28.71	1	73'29
7	29.68	2	74'29
8	30.64	3	75'29
9	31.61	4	76'29
40	32·58	85	77:29
1	33·56	6	78:29
2	34·54	7	79:29
8	35·51	8	80:29
4	36·50	9	81:29
		90 1 2	82·29 83·29 84·29

Table showing the number of years, (t), to be added to the age of the youngest of three lives, (x), (x+h), (x+h+k), to obtain the age of the three equivalent lives of equal ages, (x+t), (x+t), and (x+t).

 $\mathbf{OM}(5)$

 $\mu_{x} + \mu_{x+h} + \mu_{x+h+k} = 3\mu_{x+t}$ $a_{x:x+h:x+h+k} = a_{x+t:x+t:x+t}$

 $\mathbf{M}(5)$

$egin{array}{ c c c c c c c c c c c c c c c c c c c$	8 9	$- \mid k \mid$
	8 9	- k
1 0 1 2 3 4 5 0 7	0 9	1
0 0 00 68 1.37 2.09 2.82 3.57 4.34 5.15 5	91 6.4	3 0
1 34 1.03 1.74 2.46 3.20 3.96 4.73 5.52 6	'33 7'I	
2 71 1.40 2.15 2.82 3.60 4.34 2.12 5.05 6	76 7.5	9 2
8 1.09 1.80 2.25 3.27 4.03 4.80 5.29 6.40 7	.55 8.0	5 3
4 1.20 2.22 2.92 3.40 4.44 5.56 6.06 6.84 4	·70 8·5	4 4
5 1.93 2.66 3.40 4.16 4.94 5.74 6.24 7.37 8	20 90	5 5
	72 9.5	- 1
	27 10.1	
	84 10.7	
	43 11.3	
	04 11.9	1 1
	.68 12.2	
	.33 13.5	
	.00 13.0	1 . 1
	70 14.6	
	41 15.3	
	.89 19.0 .84 19.0	
	1	1 -
	43 18.3	
	.55 10.1	
	.03 19.0	
	86 20.8	
	69 21.6	· I - I
	.22.4	1
	40 23.3	5 25
	24.5	
	.14 25.1	
8 17.44 18.37 19.31 20.25 21.30 22.15 23.11 24.07 25	03 26.0	
9 18.30 19.24 20.18 21.13 22.08 23.04 24.00 24.96 25	.93 26.9	o 9
	83 27.8	1 30
	75 28.7	2 1
2 20'96 21'91 22'87 23'82 24'79 25'75 26'72 27'69 28	3.66 29.6	4 2
3 21.86 22.82 23.78 24.74 25.70 26.67 27.64 28.62 29	.20 30.2	7 3
	.25 31.2	0 4
	·46 32·4	4 35
	40 33.3	
	35 34.3	
	30 35.5	
	25 36.3	
40 28.36 29.34 30.32 31.30 32.28 33.26 34.24 35.23 36	.21 37.2	0 40
1 29.31 30.59 31.54 35.32 33.53 34.55 32.50 36.19 32	.18 38.1	
2 30.54 31.52 35.53 33.51 34.10 32.18 36.19 34.12 38	39.1	
3 31.53 35.51 33.10 34.14 32.19 36.14 32.13 38.15 36	11 40.1	~ .
	0.08 41.0	
	05 42'0	
	03 43.0	
	3.01 44.0	
	3.99 44.8	_ 1 .
	1.97 42.9	- 1
		-
0 1 2 3 4 5 6 7	8 9	

Table showing the number of years, (t), to be added to the age of the youngest of three lives, (x), (x+h), (x+h+k), to obtain the age of the three equivalent lives of equal ages, (x+t), (x+t), and (x+t).

 $O^{M(5)}$

 $\mu_x + \mu_{x+h} + \mu_{x+h+k} = 3\mu_{x+t}$ $a_{x:x+h;x+h+k} = a_{x+t:x+t;x+t}$

OM(5)

$\underline{\underline{S}}$		$u_{x:x+h:x+h+k} = u_{x+t:x+t}$									
						h					
k							-6		-0		k
	10	II	12	13	14	15	16	17	18	19	
0	7.55	8.39	9.54	10,10	10.97	11.85	12.74	13.63	14.24	15.45	0
1	7.98	8.82	9.67	10.24	11.42	12.30	13.10	14'10	15.01	15.05	1
2	8.42	9°27	10.13	11.01	11.89	12.78	13.67	14.28	15.49	16.41	2
3	8.89	9.75	10.62	11'49	12.38	13.27	14.18	15.09	16.00	16.93	3
4	9.39	10.52	11.15	12.00	12,00	13.80	14.70	15.62	16.24	17.47	4
5	9.90	10.77	11.62	12.24	13.43	14.34	15.25	16.14	17.09	18.02	5
6	10'44	11.32	12.20	13'09	13.99	14'90	15.82	16.74	17.67	18.61	6
7	11,00	11.88	12.77	13.67	14.28	15'49	16.41	17'34	18.27	19.51	7
8	11.28	12.47	13.37	14.27	15.18	16.10	17.02	17.95	18.89	19'83 20'48	8
9	12.19	13.08	13.98	14.89	15.81				19.23		
10	12.81	13.71	14.62	15.23	16.45	17.38	18.31	19.25	20'19	21'14	10
1	13'46	14.36	15.58	16.88	17.12	18.05	19.68	19.93	20.88 21.28	21 83	1 2
2 3	14.13	15.04	16.65	17.28	18.21	19.45	20.39	21'34	22.30	23.5	3
4	15.2	16.44	17.36	18.30	19'23	50.18	21,13	22.08	23.03	23.99	4
1	16.54	17.16	18.10	19.03	19.08	20'92	21.87	22.83	23.79	24.75	15
15 6	16.98	1710	18.85	19.79	20.73	21.68	22.64	23.60	24.26	25.2	6
7	17.74	18.67	10.01	20.26	21.21	22.46	23.42	24.38	25'34	26.31	7
8	18.21	19.45	20.40	21.34	22.30	23.52	24.51	25.18	26.14	27.11	8
9	19.30	20.54	21'19	22'14	23.10	24.06	25.02	25.99	26.96	27.93	9
20	20'10	21.02	22.00	22.96	23.92	24.88	25.85	26.82	27.79	28.76	20
ĩ	20.03	21.87	22.83	23.79	24.75	25.72	26.68	27.65	28.63	29.60	1
2	21.75	22.71	23.67	24.63	25.29	26.26	27.23	28.20	29.48	30.46	2
3	22.29	23.22	24.21	25.48	26.45	27.42	28.39	29.36	30.34	31.32	8
4	23'45	24'41	25.37	26.34	27.31	28.39	29.26	30.54	31.55	32.50	4
25	24'31	25.58	26.54	27.22	28'19	29.16	30'14	31,15	32.10	33.08	25
6	25.19	26.16	27'13	28.10	29.07	30.02	31.03	32.01	32.99	33.97	6
7	26.08	27.04	28.03	28.99	29.97	30.94	31,05	32.01	33.89	34.88	7
8	26.97	27.94	28.91	29.89	30.87	31.82	32.83	33.81	34.80	35.48	8
9	27.87	28.84	29.82	30.80	31.48	32.76	33.74	34.73	35'7 I	36.40	9
30	28.78	29.75	30.73	31.41	32.69	33.68	34.66	35.62	36.63	37.62	30
1	29.70	30.67	31.62	32.63	33.62	34.60	35.28	36.28	37.26	38.22	1
2	30.62	31.60	32.28	33.26	34.55	35.23	36.2	37.51	38.20	39'49	2
8	31.22	32.23	33.21	34.20	35.48	36.47	37.46	38.45	39.44	40.43	3
4	32.48	33.46	34.45	35.44	36.42	37.41	38.40	39.39	40.38	41.37	4
35	33.42	34°41	35.39	36.38	37:37	38.36	39'35	40'34	41.33	42'32	35
6	34'37	35.35	36.34	37.33	38.32	39.31	40.30	41.29	42.58	43.28	6
7 8	35.32 36.32	36.31	3 7.2 9	38.28	39°27	40.36 41.33	41.22	42.24	43°24 44°20	44°23	8
9	37.23	38.22	30.51	39°24 40°20	41'19	42.18	43.18	44'17	45.16	46.16	a
	38.19	30.18	t		1			1		l	1
40 1	30.12	39'10	40'17	41'16	42'15	43°15	44.14	46.10	46.13	47.12	40 1
2	40.15	41.11	42'11	43.10	44.09	45.09	46.08	47.08	48.07	49.04	2
3	41.00	42.08	43.08	44.07	45.07	46.06	47.05	48.05	49.04	50.04	3
4	42.07	43.06	44.02	45.04	46.04	47.03	48.03	49.02	50.02	51.03	4
45	43'04	44.03	45.03	46.02	47.02	48.01	49.01	50.00	51.00	52.00	45
6	44.03	45.01	46.00	47.00	48.00	48.99	49.99	50.08	51.08	52.08	6
7	45.00	45.99	46 99	47.98	48.98	49'97	50.97	51.97	52.96	53.96	7
8	45.98	46.97	47.97	48.96	49'96	50.92	51.95	52.95	53'94	54'94	8
9	46.96	47.95	48.95	49'94	50.94	51.94	52.93	53.93	54.93	55'93	9
	10	11	12	13	14	15	16	17	18	19	
					2/						

Table showing the number of years, (t), to be added to the age of the youngest of three lives, (x), (x+h), (x+h+k), to obtain the age of the three equivalent lives of equal ages, (x+t), (x+t), and (x+t).

OM(5)

 $\mu_x + \mu_{x+h} + \mu_{x+h+k} = 3\mu_{x+t}$ $a_{x:x+h:x+h+k} = a_{x+t:x+t:x+t}$

OM(5)

		h 20 21 22 24 25 26 27 28 20												
k	20	21	22	23	24	25	26	27	28	29	k			
0	16.37	17.30	18.23	19.17	20.90	21.06	22.20	22.97	23'93	24.89 25.38	0			
2	17.34	18.27	19.51	20.12	21,10	22.02	23.01	23.97	24.93	25.90	2			
3 4	17·86 18·40	18·79 19 ·3 4	19'74 20'28	20.68	21.63 21.63	23.14	23.24	24.21	25°47 26°03	26'44 27'00	3 4			
5	18.96	19.90	20.85	21.80	22.76	23.71	24.68	25.64	26.61	27.58	5			
6 7	19.22	20.49	21'44	22.39	23.35	24.31	25.27	26·24 26·87	27.21	28·19 28·81	6			
8	20.78	21.73	22.02	23.64	23 [.] 97 24 [.] 60	24 [.] 93	25.90	27.21	28.48	29.46	7 8			
9	21.43	22.38	23.34	24.30	25.26	26.53	27.20	28.17	29.12	30.15	9			
10 1	22.09	23.05 23.24	24 [.] 01 24 [.] 70	24 [.] 97 25 [.] 67	25.94 26.64	26.91 27.61	27.88 28.58	28.85	29.83	30.81	10			
2	23.49	24.45	25.41	26.38	27.35	28.33	29.30	30.58	31.56	31.21	2			
3	24'21	25.18	26.14	27.11	28.09	29.06	30.04	31.03	32.00	32.08	3			
4 15	24.96 25.72	25.92 26.68	26·89 27·65	27 [.] 86 28 [.] 63	28·84 29·60	29·81 29·58	30.26 30.20	31.77	32.75	33.74	15			
6 6	26.49	27.46	28.43	29'41	30.39	31.37	32.35	32°54 33°33	33 [.] 53	34.21 32.30	15 6			
7	27.28	28.25	29.23	30,51	31,10	32.17	33.12	34.13	35.13	36.10	7			
8	28.09 28.09	29.06 29.88	30°04 30°86	31'02 31'84	32.82	32.80	33 [.] 96 34 [.] 79	34'95 35'78	35 [.] 93 36 [.] 76	36 [.] 92	8 9			
20	29.74	30.41	31.40	32.68	33.66	34.64	35.63	36.62	37.60	38.29	20			
1	30.28	31.26	32.24	33.23	34.21	35.20	36.48	37.47	38.46	39°45	1			
2 3	31'44 32 '3 0	32'42 33'29	33 [.] 40 34 [.] 27	34.38 35.25	35°37 36°24	36·36 37·23	37 ³⁴ 38 ²²	38.33	39°32 40°20	40.31	2 3			
4	33.18	34.16	35.12	36.13	37.12	38.11	30.10	40.00	41.08	42.02	4			
25	34.06	35.02	36.03	37.02	38.01	39.00	39.99	40.98	41.98	42.97	25			
6 7	34 [.] 96	35.94	36.93	37.92	38.91	39.90	40.89	41.88	42.88	43.87	6 7			
8	36.77	36·85	37 ^{.8} 4 38 [.] 75	38 [.] 83	39 [.] 82	40.81	41.80	42.79 43.71	43 [.] 79	44 [.] 78 45 [.] 70	8			
ð	37.69	38.68	39.67	40.66	41.65	42.64	43.64	44.63	45.62	46.62	9			
30	38.61	39.60	40.29	41.29	42.28	43.57	44.57	45.26	46.22	47.55	30			
1 2	39 °5 4 40°48	40.23 41.47	41.22 42.46	42°52 43°45	43°51 44°45	44 [.] 50 45 [.] 44	45°50 46°44	46 [.] 49	47 [.] 49 48 [.] 43	48 [.] 48 49 [.] 42	1 2			
3	41.42	42.41	43'40	44.40	45.39	46.39	47.38	48.38	49'37	50.37	3			
4	42.36	43.36	44'35	45'34	46.34	47.33	48.33	49.32	50.33	51.32	4			
35 6	43°31 44°27	44'31 45'26	45°30 46°26	46·30 47·25	47 ^{.29}	48 ·2 9	49.28	50.58	51.27	52 ² 7	35 6			
7	45'23	45 20	47.22	47 25	49.51	50.50	50.54	21.53	23.10	54°19	7			
8	46.19	47'18	48.18	49'17	50'17	51.12	52.16	53.16	54.16	55.12	8			
9	47°15 48°12	48.12	49'14	50.14	21.13	52'13	23.13	54.13	55.13	56.13	9			
40 1	49'09	49.11	21.08	21.11	52.10	53.10	55.04	56.04	56.09	57.09 58.06	40 1			
2	50.06	51.06	52.06	53.02	54.02	55.02	56.04	57.04	58.04	59.04	2			
3 4	51.04 52.01	52.03 53.01	53.03	54.03	55.00 26.00	56.02	57.02	58.02	59.05	61.00	3 4			
45	52.99	23.65	54°01	22.01	56.98	57 [.] 00	58.00	29.00	60.08	61.08	45			
6	53.97	54'97	55'97	56.97	57.96	58.96	20.06	90.96	61.96	62.96	6			
7 8	54.96	55.95	56.95	57.95	58.95	59'95	60.94	61.94	62.94	63.94	7			
9	55 [.] 94 56 [.] 93	56.94 57.92	57°94 58°92	58·94 59·92	59.93 60.92	61,85 60,83	62.93	62.93	63.93	64.93	8 9			
	20	21	22	23	24	25	26	27	28	29				
				_5							∟ ⁴			

Table showing the number of years, (t), to be added to the age of the youngest of three lives, (x), (x+h), (x+h+k), to obtain the age of the three equivalent lives of equal ages, (x+t), (x+t), and (x+t).

OM(5)

 $\mu_x + \mu_{x+h} + \mu_{x+h+k} = 3\mu_{x+t}$ $a_{x:x+h:x+h+k} = a_{x+t:x+t:x+t}$

 $\mathbf{OM}(5)$

<u> </u>		$\frac{u_{x;x+h;x+h+k}-u_{x+t;x+t}}{-}$										
						h					_	
k	30	31	32	33	34	35	36	37	38	39	\boldsymbol{k}	
0	25.85	26.82	27.80	28.77	29.75	30.45	31.40	32.69	33.67	34.65	0	
1	26.35	27'32	28.29	29.27	30.54	31.55	32.51	33,10	34'17	35.16	1 2	
2	26.87	27.84	28.81	29.79	30.22	31.75	32.73	33.71	34.70	35.68	3	
8 4	27.41	28·38 28·94	29.35	30.33	31.88	32.86 35.50	33 ^{.2} 7 33 ^{.8} 4	34·26 34·83	35.81	36·23 36·80	4	
	27.97		29.92	30.90	l '					_		
5	28.22	29.23	30.21	31.49	32.47	33.45	34'43	35.42	36.41	37:39	5	
6 7	29.16	30'14	31,11	32'10	33.08	34.06	35.04	36.03	37.02	38.01	6 7	
8	29.79	30.77	31'74	32.72	33.71	34.69	35.68	36.67	37.65	38.64	8	
9	30'43	31.41	33.06 33.06	33°38 34°05	34.36	35°34 36°02	36.33	37.32	38.31	39.30 39.30	9	
	31,10		1		35.03		1	37'99				
10	31.79	32'77	33.75	34.74	35.72	36.41	37.70	38.69	39.68	40.67	10	
1	32'49	33.48	34.46	35.45	36.43	37.42	38.41	39.40	40.39	41.38	1 2	
8	33.55	34'20	32.10	36.18	37.16	38.00 38.12	39.89	40.13	41.12	42.86	3	
4	33 [.] 96 34 [.] 7 ²	34°95 35°71	35.69 36.69	37.68	37.91 38.67	39.66	40.65	41.64	42.64	43.63	4	
			-	38.46								
15 6	35.20	36.48	37:47		39.45	40'44	41.43	42'42	43'42	44'41	15 6	
7	36.50	37.27	38.36	39°25 40°06	40'24	41.53	42.53	43'22	44'21	45.51	7	
8	37.03	38.08	39.89	40.88	41.05	42.87	43.86	44°03 44°85	45°02 45°84	46°02 46°84	8	
9	38.74	39.73	40.72	41.71	42.71	43.70	44.69	45.69	46.68	47.68	9	
		_	1						•			
20 1	39.28	40.28	41.26	42.26	43.55	44.24	45.24	46.23	47.53	48.52	20	
2	40'44	41.43	42'42	43.42	44'41	45'40	46.40	47'39	48.39	49'38	1 2	
3	41.30	42.30	43'29	45.16	45°28	46.27	47.27	48.26	49°26	50.25	3	
4	43.07	44.06	44'17	46.02	47.04	47.15	49.03	50.03	51.03	51.13	4	
25				46.94				-				
8	43.96	44'95	45.95	47.85	47.94	48.93	49.93	50.93	51.92	52.02	25	
7	44.86	45.86	46.85	48.76	48.84	49.84	50.83	51.83	52.83	53.83	6	
8	45 [.] 77	46 [.] 77	47.76	49.68	49°75 50°67	50.72 51.62	51.75 52.67	52.4 53.66	53°74 54°66	54 [.] 74 55 [.] 66	8	
9	47.61	48.61	49.61	20.60	21.60	22.60	53.29	54.29	55.29	56.20	9	
30		1	1	1								
1	48·55 49·48	49.24	50.23	51.23	52.23	53.53	54.2	55.2	56.2	57.52	30	
2	50'42	50.48	51.47	52°47 53°41	53.47	54.46	55.46	56.46	57·46 58·40	58.46	1 2	
8	51.36	51.42	53.36	54.35	54.41 55.35	55.40 56.35	56.40	57.40 58.35	59.35	59'40 60'35	3	
4	52.32	23.31	54.31	55.31	20.30	57:30	58.30	20.30	60.30	61.30	4	
35			55.56	56.56		58.36		99.26	_		_	
6	53°27 54°23	54°27 55°22	56.55	57.22	57°26 58°22	59.55	59°25	61,51	62.51	62.22	35 6	
7	55'19	22.13	57.18	28.18	20.18	90.18	91.18	62.18	63.18	63.21	7	
8	56.12	57'15	58.12	20.12	90.14	61.12	62.14	63.14	64.14	65.14	8	
9	57.13	28.13	20.13	90.11	91.11	62.11	63.11	64.11	62.11	99.11	9	
40	58.09	59.09	60.09	61.09	62.08	63.08	64.08	65.08	66.08		40	
1	20.09	90.09	61.06	62.06	63.06	64.06	65.06	66.05	67.05	67.08 68.05	40 1	
2	60.04	61.04	62.03	63.03	64.03	65.03	66.03	67.03	68.03	69.03	2	
3	61.01	62.01	63.01	64.01	65.01	66.01	67.01	68.01	99.01	70.01	3	
4	61.99	62.99	63.99	64.99	65.99	66.99	67.99	68.99	69.99	70.99	4	
45	62.98	63.97	64.97	65.97	66.97	67.97	68.97	69.97	70.97	71.97	45	
6	63.96	64.96	65.95	66.96	67.95	68.95	69.95	70.92	71.95	72.95	6	
7	64.94	65.94	66.94	67.94	68.94	69.94	70.94	71.93	72.93	73.93	7	
8	65.93	66.92	67.92	68.92	69.92	70.92	71.02	72.92	73.92	74'92	8	
9	66.91	67.91	68.91	69.91	70.01	71.91	72.91	73.91	74.91	75.91	9	
	30	31	32	33	34	35	36	37	38	39	<u> </u>	
							<u> </u>	- 5/	30	39	<u> </u>	

TABLE showing the number of years, (t), to be added to the age of the youngest of three lives, (x), (x+h), (x+h+k), to obtain the age of the three equivalent lives of equal ages, (x+t), (x+t), and (x+t).

 $\mathbf{OM}(5)$ $\mu_x + \mu_{x+h} + \mu_{x+h+k} = 3\mu_{x+t}$ $\mathbf{\Omega M}(\mathbf{5})$ $a_{x:x+h:x+h+k} = a_{x+t:x+t:x+t}$ h \boldsymbol{k} \boldsymbol{k} 60 40 50 70 80 90 35.64 65.20 0 45.22 55.2₁ 75'49 85.40 0 36.14 1 46.06 56.02 66.01 76.00 86.00 1 2 36.67 46.59 56.26 66.24 76.24 86.23 2 3 37.22 57'11 77'09 47'14 67'10 4 37.79 47'72 57.69 67.67 77.67 0 5 38.38 48'31 58.28 68:27 78.27 6 39.00 48.93 58.90 68.89 78.80 7 69.23 39.63 49'57 59'54 79.77 92 79'53 8 40'29 50'23 60.31 70'20 80.19 78.77 9 70.88 40'97 50.01 60.89 80.88 77.77 90 10 41.66 51.61 61.20 71.58 81.28 76.78 89 1 62.31 42.38 72.30 75'78 52.33 82.29 8 2 53.06 43'11 63'04 74:78 7 73'04 83.03 43.86 8 63.80 53.81 73'79 73.78 в 4 44.62 54.28 64.24 74.26 72.78 5 10 15 71.78 45'40 65.32 84 55'37 75'34 66.12 в 46.30 56.16 76.12 70'78 3 7 56.98 69.78 47'01 66.92 77.22 79.78 2 8 57.81 67:79 47.83 68.78 1 77'79 78.78 9 48.67 58.65 68.63 78.63 77.78 67.78 80 20 59**·**50 69.49 66.79 49.22 79°48 76.78 79 1 50'38 70.35 80.34 75.78 65.79 8 2 51.25 74.78 7 61.53 71'22 81.55 64.79 3 62.11 72'10 73'78 в 52'13 63.79 4 63.00 53.03 5 72.99 72.79 62.79 20 25 63.90 61.80 74 53'92 73.89 71.79 в 64.81 60.80 54.82 74.80 3 70.79 7 59.80 2 55'74 65.45 69:79 75'72 79'79 8 56.66 66.64 68.79 58.81 1 76.64 78.79 9 70 57.28 77.79 67:80 57.81 67:57 77.57 30 76.79 66.80 56.81 58.52 68.20 78.20 69 1 69.44 65.80 59.45 75.80 55.82 79'44 8 54.82 2 60.40 80'38 74.80 64.81 7 70.39 3 63.81 73.80 53.83 61.34 71'34 в 4 62.29 72.81 62.81 52.83 5 72.29 30 35 63.25 71.81 61.82 51.84 64 73'24 в 64.31 70.81 60.82 50.84 3 74'20 7 79.81 59.83 49.85 65.17 69.82 2 75'17 8 66'14 76.13 78.82 68.82 58.83 48.86 1 77.82 9 67'11 77'10 67.83 57.84 47.87 60 46.88 40 80.89 78.07 76.83 66.83 56.85 59 65.84 1 69.05 79.05 75.83 55.85 45.89 8 54[.]86 64.84 2 70'03 80.02 74'84 44'90 7 3 73.85 63.85 53.87 71.01 43'91 6 62.86 52.88 4 5 72.85 71'99 42'93 40 61.87 51.89 45 72'97 71.86 41'94 54 60.88 3 6 73'95 70.87 50.00 40.96 59.89 7 79.87 69.88 39.98 2 74'93 49'91 1 8 75'92 78.88 68.89 58.90 48.93 38.99 50 9 76.91 77.90 67:90 57.91 47'94 38.01

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Table showing the number of years, t, to be added to x in the case of four lives, (x), (x), (x), (x+k), to obtain the age of the four equivalent lives of equal age (x+t), (x+t), (x+t), and (x+t); the value of x being first obtained from the Table for three lives on pages 245 to 249.

 $\mathbf{M}(5)$

 $8\mu_x + \mu_{x+k} = 4\mu_{x+t}$ $a_{x.x.x.+k} = a_{x+t.x+t.x+t}$

 $\mathbf{OM}(5)$

						x.x+x	- 111	#+t,#+				
\boldsymbol{k}	.0	.I	.5	.3	.4	•5	.6	.7	.8	.0	Diff.	\boldsymbol{k}
0	.00	.03	.02	.08	.10	.13	·16	.18	.51	.23	3	0
1	•26	'29	.31	. 34	·37	'40	42	. 45	. 48	.20	3	1
2	·53	.26	.59	62	.65	.68	·7 I	.74	.77	.80	3	2
3	.83	.86	.89	.92	•95	.99	1.03	1.02	1.08	1,11	3	8
4	1'14	1.12	1.51	1.54	1.58	1.31	1.34	1.38	1.41	1'45	3	4
5	1'48	1.25	1.22	1.29	1.65	1.66	1.69	1.43	1.46	1.80	4	5
6	1.83	1.87	1.90	1'94	1.08	2.03	2.02	2.00	2.13	3.19	4	6
7	2.30	2.24	2.58	2,35	2.36	2'40	2.44	2.48	2.25	2.26	4	7
8	2.60	2.64	2.68	2.43	2.22	2.81	2.82	2.89	2.94	2.98	4	8
9	3.05	3.06	3.11	3.12	3.19	3.54	3.58	3.35	3.36	3'41	4	. 9
10	3.45	3.20	3.24	3.29	3.64	3.69	3.73	3.78	3.83	3.87	5	10
1 1	3.95	3'97	4.03	4.06	4'11	4.19	4.31	4.56	4.30	4.35	5	1
2	4.40	4.45	4.20	4.22	4.60	4.65	4'70	4.75	4.80	4.82	5	2
8	4.90	4'95	5.01	5.06	2.11	5'17	5.55	5.27	5.32	5.38	5	8
4	5'43	5'49	5.24	5.60	5.65	5.4 ₁	5.46	5.82	5.87	5'93	6	4
15	5.98	6.04	6.10	6.12	6.51	6.27	6.33	6.39	6.44	6.20	6	15
6	6.26	6.62	6.68	6.74	6.80	6.86	6.91	6.97	7.03	7.09	6	6
7	7.12	7.21	7.27	7.34	7.40	7.46	7.2	7.28	7.65	7.71	6	7
8	7.77	7.83	7.90	7.96	8.03	8.09	8.12	8.51	8.27	8.34	6	8
9	8.40	8.47	8.23	8.60	8.66	8.73	8.80	8.86	8.93	8.99	7	9
20	9.06	9.13	9.20	9.26	9.33	9.40	9.47	9.24	9.60	9.67	7	20
1	9.74	9.81	9.88	9.95	10'02	10.00	10.19	10.53	10.30	10.37	7	1
2	10.44	10.21	10.28	10.62	10.43	10.80	10.87	10'94	10,11	11.08	7	2
3	11.12	11.55	11.30	11.37	11.45	11.25	11.29	11.67	11.74	11.85	7	3
4	11.89	11.97	12.04	12.13	12.19	12.27	12.34	12.42	12.49	12.24	8	4
25	12.64	12.72	12.79	12.87	12.94	13.03	13.10	13.17	13.25	13.32	8	25
6	13.40	13.48		13.64	13.72	13.80	13.87	13.95	14.03	14'11	8	6
7	14'19	14'27	14.35	14.43	14'51	14.29	14.66	14'74	14.82	14'90	8	7
8	14.98	15.06	15.14	15.22	15.30	15.39	15.47	15.22	15.63	15.41	8	8
9	15.79	15.87	15.96	16.04	16.15	16.51	16.59	16.37	16.45	16.24	8	9
30	16.62	16.40	16.79	16.87	16.96	17.04	17'12	17.51	17:29	17:38	8	30
1	17.46	17.55	17.63	17.72	17.80	17.89	17.97	18.06	18'14	18.23	9	1
2	18.31	18.40	18.48	18.57	18.65	18.74	18.83	18.91	19.00	19.08	9	2
3	19.17	19.56	19.34	19'43	19.22	19.61	19.69	19.78	19.87	19.95	9	8
4	20.04	20'13	20.55	20.30	20.39	20'48	20.24	20.66	20.74	20.83	9	4
35	20.92	21'01	21'10	21.10	21.58	21.37	21.45	21.24	21.63	21.42	9	35
6	21.81	21.90	21.99	22.08	22.17	22.56	22.35	22.44	22.23	22.62	ģ	8
7	22.71	22.80	22.89	22.98	23.07	23.16	23.25	23.34	23.43	1	ģ	7
8	23.61	23.70	23.79	23.89	23.98	24.07	24.16	24.5	24.35	24.44	9	8
9	24.23	24.62	24.71	24.81	24.90	24.99	25.08	25.17	25.27	25.36	9	9
40	25.45	25.24	25.64	25.73	25.82	25.92	26.01	26.10	26.19	26.59	9	40
1	26.38		26.24	26.66		26.85	ı	27.03	27.13		ģ	1
2	27.31	27.40	27.20	27.59	27.68	27.78	27.87	27.96	28.05		9	2
3	28.24	28.34	28.43	28.23				28.91	29.00		10	3
4	29.19	59.59	29.38	29.48	29'57	29.67		29.86	29.95	30.02	10	4
45	30.14		30.33	30.43	30.2	30.62	30.41	30.81	30.90	31.00	10	45
6	31.00		31.58	31.38		31.22		31.76	31.85		10	6
7		32.14	, -		32.42	32.22		32.41	32.81	32.00	10	7
8	33.00	1			33.39	33.49		33.68	33.48	33.87	10	8
9	33.97	34.07	34.19	34.56	34.35	34.45	34.22		34'74		10	9
						250					<u>'</u>	'

Table showing the number of years, t, to be added to x in the case of four lives, (x), (x), (x), (x+t), to obtain the age of the four equivalent lives of equal age (x+t), (x+t), (x+t), and (x+t); the value of x being first obtained from the Table for three lives on pages 245 to 249.

 $\mathbf{M}(5)$

 $3\mu_x + \mu_{x+k} = 4\mu_{x+t}$ $a_{x,x,x,x+k} = a_{x+t,x+t,x+t}$

 $\mathbf{OM}(5)$

k	·o	T.	.5	.3	'4	•5	.6	7	.8	.0	Diff.	k
50	34.93	35.03	35.13	35.55	35.32	35.42	35.21	35.61	35.41	35.80	10	50
ĭ	35.00	36.00	36.00	36.19	36.59	36.39	36.48	36.28	36.68	36.77	10	1
2	36.87	36.97	37.07	37.16	37.26	37.36	37.46	37.56	37.65		10	2
3	37.85	37.95	38.04	38.14	38.24	38.34	38.43	38.53	38.63	38.72	10	3
4	38.82	38.92	39.03	39.11	39.51	39.31	39.41	39.21	39.60	39.70	10	4
55	39.80	39.90	40.00	40.00	40'19		40'39	40'49	40.28		10	55
6	40.78		40.08	41.07	41'17		41.37	41.47	41.26		10	6
7	41.76		41.96	42.02	42'15		42.35	42.42	42.24		10	7
8	42.74	42.84	42.04	43.04	43.14		43'33	43.43	43.23	43.63	10	8
9	43.73	43.83	43.93	44.03	44.13	44.53	44'32	44'42	44.23		10	9
60	44'72	44.82	44.02	45.01	45'11	45.51	45.31	45.41	45.20		10	60
ŭ	45.70	45.80	45.90	46.00	46'10	46.50	46.50	46.39	46.49		10	ĭ
2	46.69	46.49	46.89	46.99	47.09		47.28	47.38	47.48		10	2
3	47.68	47.78	47.88	47.98	48.08	48.18	48.27	48.37	48.47		10	3
4	48.67	48.77	48.87	48.97	49.07	49.17	49.56	49.36	49.46	49.26	10	4
65	49.66	49.76	49.86	49.96	50.06	50.19	50.5	50.32	50.45	50.22	10	65
6	50 65	50.75	50.85	50.95	51.05	21.12	51.54	51'34	51.44	51.24	10	в
7	51.64	51.74	51.84	51.94	52.04	52'14	52.24	52.34	52.44	52.24	10	7
8	52.64	52.74	52.84	52.94	53.04	53'14	53.23	53.33	53.43	53.23	10	8
9	53.63	53.73	53.83	53'93	54.03	54.13	54.53	54.33	54.43	54'53	10	9
70	54.63	54.73	54.83	54.93	55.03	55.13	55.55	55.32	55.42	55.2	10	70
1	55.62	55.72	55.82	55.92	56.03	56.13	56.53	56.32	56.42	56.2	10	1
2	56.62	56.72	56.82	56.92	57'02	57.12	57.21	57.31	57.41	57.21	10	2
3	57.61	57.71	57.81	57.91	58.01	28.11	58.51	58.31	58.41	58.21	10	3
4	58.61	58.71	58.81	58.91	59.01	20.11	59.50	59.30	59.40	59.20	10	4
75	59.60	59.70	59.80	59.90	60.00	60.10	60.50	60.30	60.40	60.20	10	75
6	60.60	60.70		60.90	61.00	61.10	61.50	61.30	61.40	61.20	10	6
7	61.60	61.40	61.80	61.90	62.00	62.10	62.19	62.29	62.39	62.49	10	7
8	62.29	62.69	62.79	62.89	62.99	63.09	63.19	63.29	63.39	63.49	10	8
9	63.29	63.69	63.79	63.89	63.99	64.09	64.19	64.59	64.39	64.49	10	9
80	64.29	64.69	64.79	64.89	64.99	65.09	65.19	65.29	65.39	65.49	10	80
1	65.29	65.69	65.79	65.89	65.99	66.09	66.19	66.59	66.39	66.49	10	1
2	66.29	66.69	1 . • •	66.89	66.99	67.09	67.18	67.28	67.38	67.48	10	2
8	67.58	67.68	67.78	67.88	67.98	68.08	68.18	68.28	68.38	68.48	10	3
4	68.28	68.68	68.78	68.88	68.98	69.08	69.18	69.58	69.38	69.48	10	4
85	69.28	69.68	69.78	69.88	69.98	70.08	70.18	70.28	70.38	70.48	10	85
6	70.28	70.68		70.88	70.98	71.08	71.18	71.58	71.38	71.48	10	6
7	71.28	71.68	71.78	71.88	71.98	72.08	72.18	72.58	72.38	72.48	10	7
8	72.28	72.68	72.78	72.88	72.98	73.08	73.18	73.58	73.38	73.48	10	8
9	73.28	73.68	73.78	73.88	73.98	74.08	74.17	74.52	74.37	74.47	10	9
90	74.27	74.67	74.77	74.87	74'97	75.07	75'17	75.27	75'37	75.47	10	90
1	75.57	75.67	75'77	75.87	75'97	76.07	76.17	76.27	76.37	76.47	10	1
2	76.27	1			1	1		1		(2

EXAMPLES

Illustrating the application and use of the Tables of Uniform Seniority, and of values of Annuities on two, three, and four lives of equal age, on pp. 244-275, both inclusive.

(1) JOINT ANNUITY ON Two LIVES. Required the value at 3 per cent. of a Joint Annuity on two lives aged 20 and 30.

Here the difference h between the ages=10, and entering the Table on p. 244 with this value of h, the tabular value t=6:09. Thus the value of the required Annuity is equal to that of an Annuity on two lives of equal age 26:09. From the Table of Annuity Values on p. 262-3, we have

 $a_{26\%} = 17.476$ with a "Difference" of -22

Deducting $\frac{9}{10}$ ths of this difference, the value of the required Annuity $a_{2609} = 17.456$ approximately.

(2) JOINT ANNUITY ON THREE LIVES. Required the value at 3 per cent. of a Joint Annuity on three Lives aged 20, 30 and 45.

Here the difference (h) between the two youngest lives=10, and the difference (k) between the two oldest=15. Entering the Table on pp. 245-249 with these values of h and k, we deduce $t=16\cdot24$. Thus the value of the required Annuity is equal to that of an Annuity on three lives of equal age 36·24. From the Table of Annuity Values on pp. 264-5, we have

 $a_{36^{\circ 2} \ 36^{\circ 2} \ 36^{\circ 2}} = 12^{\circ}770$ "Difference" = -27

Deducting $\frac{4}{10}$ ths of this difference, the value of the required Annuity a_{3624} $_{3624}$ $_{3624}$ $_{3624}$ $_{3624}$ $_{3624}$ $_{3624}$ $_{3624}$ $_{3624}$

Note to Table on pp. 245-249.—For values of h>40, and of k<50; and for values of h<40, and of k>50; the tabular values of t on p. 249 are only computed for every tenth value of h, as the differences over this section of the Table change but slowly. The tabular value of t for intermediate values of t can, however, readily be determined by inspection. Thus for t=43, t=15, $t=48\cdot39$; and similarly for t=12, t=52, $t=51\cdot91$.

(3) JOINT ANNUITY ON FOUR LIVES. Required the value at 3 per cent. of a Joint Annuity of four lives aged 20, 30, 45 and 60.

Here the equal age x, appropriate to the three younger lives, can be obtained, as in the previous example, as 36.24. Deducting this value from the age of the fourth life, the value of k=23.76. Entering the Table on pp. 250-251 with this value of k, we obtain the value of t=11.71; and the equal age of the four lives is equal to x+t, or 47.95. From the Table of Annuity Values on pp. 266-267, we have

 $a_{47.9} \,_{47.9} \,_{47.9} \,_{47.9} = 8.031$ "Difference" = -29

and deducting half this difference, the value of the required Annuity a_{4795} $_{4795}$ $_{4795}$ $_{4795}$ $_{4795}$ $_{4795}$ $_{4795}$ $_{4795}$

Note to Tables on pp. 254-275 inclusive.—In cases where the fractional portion of the Annuity is printed in **black type**, the integral portion, as set out in the column headed '0, is to be diminished by unity. Thus (p. 262) $a_{28'5} = 16'910$, &c., &c.

$O^{M(5)}$

 $2^{\frac{1}{2}}$ per cent.

VALUES OF ANNUITIES

ON TWO, THREE, AND FOUR JOINT LIVES

OF EQUAL AGE.

VALUES OF ANNUITIES

 $\mathbf{OM}(5)$

ON TWO JOINT LIVES OF EQUAL AGE

21 PER 22 CENT.

~					a_{xx}						D:u	~
<i>x</i>	.0	.I	.5	.3	'4	·5	.6	7	.8	.0	Diff.	<i>x</i>
10 1 2 3 4	22 '111 21 '944 '773 '596 '414	.094 .927 .755 .578	.078 .910 .738 .560	.061 .893 .720 .541 .358	.044 .876 .702 .523	·028 ·859 ·685 ·505 ·320	°011 ·841 ·667 ·487 ·301	*994 *824 *649 *469 *282	.807 .631 .450	'961 '790. '614 '432 '245	17 17 18 18	10 1 2 3 4
15 6 7 8 9	°226 °033 20 °834 °630 °419	·207 ·013 ·814 ·609 ·397	.187 .993 .793 .588 .376	.168 .973 .773 .567 .354	'149 '953 '752 '546 '333	'130 '934 '732 '525 '311	'110 '914 '712 '503 '289	.691 .691 .482 .268	.072 . 874 .671 .461 .246	*854 *650 *440 *225	19 20 20 21 22	15 6 7 8 9
20 1 2 3 4	203 19 981 753 518 278	.181 .958 .730 .494 .253	°159 °935 °706 °470 °229	136 913 683 446	.890 .659 .422 .179	.092 .867 .636 .398	°070 °844 °612 °374 °130	.048 .821 .589 .350	.025 .799 .565 .326 .080	.003 .776 .542 .302 .056	22 23 24 24 25	20 1 2 3 4
25 6 7 8 9	°031 18 '779 °520 °255 17 '984	'006 '753 '494 '228 '956	'981 '727 '467 '201 '929	'955 '701 '441 '174 '901	'930 '675 '414 '147 '873	.650 .388 .120 .846	·880 ·624 ·361 ·092 ·818	*855 *598 *335 *065 *790	'829 '572 '308 '038 '762	*804 *546 *282 *011 *735	25 26 27 27 28	25 6 7 8 9
30 1 2 3 4	.707 .424 .135 16 .839	.679 .395 .105 .809 .508	.650 .366 .076 .779 .478	.622 .337 .046 .749 .447	'594 '308 '017 '719 '416	.566 .280 .987 .689 .386	.537 .251 .957 .659 .355	509 222 928 629 324	'481 '193 ' 898 '599 '293	'452 '164 ' 869 '569 '263	28 29 30 30 31	30 1 2 3 4
35 6 7 8 9	°232 15 °920 °602 °280 14 '952	.888 .570 .247 .919	.170 .856 .538 .214 .886	138 825 505 182 852	'793 '473 '149 '819	.076 .761 .441 .116 .786	.729 .409 .083	·014 ·697 ·377 ·050 ·720	.666 .344 .018 .686	.634 .312 .985 .653	31 32 32 33 33	35 6 7 8 9
40 1 2 3 4	.620 .283 13 .941 .596 .248	.586 .249 .907 .561 .213	.553 .215 .872 .526 .178	'519 '180 '838 '492 '142	'485 '146 '803 '457 '107	'452 '112 '769 '422 '072	'418 '078 '734 '387 '037	'384 '044 '700 '352 '002	35° 665 318 966	'317 '975 '631 '283 '931	34 34 35 35 35	40 1 2 3 4
45 6 7 8 9	12 '896 '541 '184 11 '825 '464	.861 .505 .148 .789 .428	·825 ·470 ·112 ·753 ·392	'79° '434 '076 '717 '355	'754 '398 '040 '681 '319	'719 '363 '005 '645 '283	·683 ·327 ·969 ·608 ·247	.648 .291 .933 .572 .211	.612 .255 .897 .536 .174	'577 '220 '861 '500 '138	36 36 36 36 36	45 6 7 8 9
50 1 2 3 4	102 10 '740 '377 '014 9 '653	·066 ·7°4 ·341 ·978 ·617	.030 .667 .304 .942 .581	'993 '631 '268 '906 '545	*957 *595 *232 *870 *509	'921 '559 '196 '834 '473	*885 *522 *159 *797 *437	*849 *486 *123 *761 *401	*812 *450 *087 *725 *365	'776 '413 '050 '689 '329	36 36 36 36 36	50 1 2 3 4

VALUES OF ANNUITIES

 $O^{M(5)}$

ON TWO JOINT LIVES OF EQUAL AGE

 $2^{rac{1}{2}}$ per

					a_{xx}						T	x
<i>x</i>	•0	.I	.5	.3	'4	.2	•6	.7	-8	.6	Diff.	
55 6 7 8	9 *293 8 *935 *580	°257 °900 °545 °192	·221 ·864 ·509 ·157	186 829 474	·150 ·793 ·439 ·087	'114 '758 '404 '053	.078 .722 .368	.687 .333 .983	.007 .651 .298	'971 '616 '262 '913	36 36 35 35	55 6 7 8
9 60 1 2	7 ·878 ·534 ·194 6 ·859	·844 ·500 ·161 ·826	·809 ·466 ·127 ·793	775 432 994 760	740 398 060 727	.706 .364 .027 .695	.672 .330 .993 .662	.637 .296 . 960 .629	.603 .262 .926	.568 .228 .893 .563	34 34 34 33	9 60 1 2
3 4 65 6	.530 .207 5 .891 .582	.498 .175 .860	'465 '144 '829 '522	'433 '112 '798 '492	.401 .081 .767 .462	'369 '049 '737 '432	.336 .017 .706 .401	.304 .986 .675	.272 .954 .644 .341	.311 .613	32 32 31 30	3 4 65 6
7 8 9 70	·281 4 ·987 ·702 ·425	·252 ·959 ·674 ·398	.222 .930 .647	'193 '902 '619	.163 .873 .591	'134 '845 '564 '292	.105 .816 .536	.075 .788 .508	'046 '759 '480 '211	'016 '731 '453 '185	29 29 28 27	7 8 9 70
1 2 3 4	158 3 ·899 ·649 ·409	.132 .874 .625 .386	'106 '849 '601	.824 .577 .340	.054 .799 .553 .317	'029 '774 '529 '294	.749 .505 .271	'977 '724 '481 '248	.699 .457 .225	'925 '674 '433 '202	26 25 24 23	1 2 3 4
75 6 7 8 9	179 2 '958 '747 '545 '353	157 1937 1727 1526 1335	'135 '916 '707 '507 '316	.895 .686 .487	.874 .666 .468	*069 *853 *646 *449 *262	.626 .430 .243	.024 .810 .606 .411	.789 .585 .391 .207	'980 '768 '565 '372 '188	22 21 20 19 18	75 6 7 8 9
80 1 2 3 4	1 '997 834 679	.153 .981 .819 .664 .519	.135 .964 .803 .650	'118 '948 '788 '635 '492	'101 '932 '772 '621 '478	.084 .916 .757 .606 .464	.066 .899 .741 .591 .450	.883 .726 .577 .436	.032 .867 .710 .562 .423	.850 .695 .548 .409	17 16 16 15	80 1 2 3 4
85 6 7 8 9	395 267 146 034	.382 .255 .135 .024 .919	'369 '243 '124 '013 '909	'357 '231 '112 '003 '900	344 219 101 992 890	'331 '207 '090 '982 '880	'318 '194 '079 ' 971 '870	.305 .182 .068 . 961 .860	.293 .170 .056 .950	'280 '158 '045 '940 '841	13 12 11 11	85 6 7 8 9
90 1 2 3 4	·831 ·742 ·656 ·582 ·508	·822 ·733 ·649 ·575 ·502	·813 ·725 ·641 ·567 ·496	·804 ·716 ·634 ·560 ·490	795 708 626 552 484	.787 .699 .619 .545 .478	.778 .690 .612 .538	.769 .682 .604 .530 .465	.760 .673 .597 .523 .459	.751 .665 .589 .515 .453	9 9 7 7 6	90 1 2 3 4
95 6 7 8 9	'447 '384 '341 '306	.380 .338	'434 '375 '334 '296	'428 '371 '331 '291	'422 '367 '327 '286	'416 '363 '324 '281	'409 '358 '320 '275	'403 '354 '317 '270	397 350 313 265	390 345 310 260	6 4 4 5 6	95 6 7 8
100 1	°255 °199 °108	'249 '190 	'244 '181 	·238 ·172 ···	 .163	154 	'22I '144 		 .150	 .117	9	100

VALUES OF ANNUITIES

 $O^{\mathbf{M}(5)}$

ON THREE JOINT LIVES OF EQUAL AGE

 $2^{rac{1}{2}}$ per

x					a _{xx}	,			1		Diff.	x
~	•0	r.	.2	.3	· ₄	•5	.6	7	-8	.0		-
				3	*							
							1	ĺ	1	ł	1	
10	19 '271	.256	.241	.226	'2 I I	.196	.181	.166	151	.136	15	10
1	121	.106	.090	.075	·059	'044	·028	.013	'997	.085	16	1
2	18 '966	.950	[.] 934	918	902	.886	.869	.853	.837	.821	16	2
3	.805	.788	772	755	·739	.455	.402	.689	672	656	17	8
4	·6 3 9	622	.602	.288	.221	554	.236	.219	.202	.485	17	4
15	·468	'450	·433	415	·397	.380	.362	[.] 344	.326	.309	18	15
6	.591	·273	255	.236	.518	'200	.185	°164	145	127	18	6
7	.109	.0 90	'071	.023	.034	.012	.000	. 977	959	'940	19	7
8	17 '921	.005	.882	.863	.843	824	805	785	.766	.746	19	8
9	727	'707	.687	.667	.647	.627	.607	·5 ⁸ 7	.267	547	20	9
20	.527	.206	·486	.465	[.] 445	424	.403	.383	.362	342	21	20
1	321	.300	279	.258	·237	•216	194	.173	152	.131	21	1
2	.110	.088	.066	'045	.023	.001	'979	'95 7	.936	. 014	22	2
8	16 .895	.870	·847	825	.803	.481	758	736	714	691	22	3
4	.669	·646	.623	.600	`577	554	.231	.208	.485	'462	23	4
25	. 439	415	.392	.368	345	.321	297	·274	'250	227	24	25
6	.203	179	155	.130	,106	.082	560 €	·034	.009	985	24	6
7	15 '961	936	.911	·88 ₇	.862	.837	812	.787	.763	'738	25	7
8	'713	· 6 88	·662	637	.611	•586	.261	`535	.210	484	25	8
9	. 459	. 433	'407	.381	35 5	·329	.303	`277	.521	225	26	9
30	.199	172	·146	.119	.093	.066	.039	.013	.986	.000	27	30
1	14 '933	1906	·879	852	.825	· 7 98	.770	. 743	.716	.689	27	1
2	.662	.634	.606	.57 9	.221	·523	'495	'467	'440	412	28	2
8	. 384	356	328	299	271	243	'215	.187	.128	130	28	3
4	102	·073	.044	.019	'987	.958	.929	.000	.872	·8 4 3	29	4
35	13 814	·78 ₅	.7 55	.726	.697	:668	·638	.609	·58o	.220	29	35
в	521	'491	'461	432	'402	·372	342	312	.283	°253	30	6
7	.223	.193	.165	132	102	.072	'041	.011	.081	. 920	30	7
8	12 920	.889	.859	828	797	767	736	705	.674	644	31	8
9	.613	.282	.221	.20	·489	.458	426	3 95	.364	333	31	9
40	.302	.271	.239	·208	176	145	113	·082	· o 50	.019	32	4 0
1	11 '987	955	.923	·892	·86o	828	.796	.764	733	.401	32	1
2	.669	.637	.602	`572	.240	.208	476	` 444	411	379	32	2
8	347	.312	.282	.250	217	185	153	120	.088	055	32	3
4	·023	.000	·958	.925	.892	.860	827	794	.461	729	33	4
45	10 .696	·663	·630	.598	.262	.232	'499	·466	'434	' 401	33	45
6	.368	'335	.305	.569	236	.503	170	°1 37	104	'071	33	6
7	.038	.002	.072	.939	.000	.873	.840	807	774	'74I	33	7
8	9 '708	.675	642	.608	:575	542	.209	·476	'442	409	33	8
9	'376	·343	.310	277	*244	211	177	144	.111	078	33	9
50	'045	'012	·979	946	.013	.880	·847	·814	·781	748	33	50
1	8 '715	.682	.649	.616	·583	.220	517	.484	·451	418	33	1
2	'385	352	.319	287	254	'22I	.188	155	123	.090	33	2
3 4	.057	'024 '600	·666	959	927	.894	.861	·829	796	764	33	8
*	7 '731	.699	.666	.634	·602	·57°	537	.202	473	'440	32	4
			<u> </u>	L	L	<u> </u>			<u> </u>		L	

VALUES OF ANNUITIES

 $O^{\mathbf{M}(5)}$

ON THREE JOINT LIVES OF EQUAL AGE

 $2^{rac{1}{2}}$ per

x					a_{xx}	ש					Diff.	x
" 	•0	ı.	.5	.3	·4	.2	.6	7	.8	.0	Diff.	
55 6	7 '408 '089	·376	'344 '026	·312 ·994	·280 ·963	·249	·217 ·899	·185	·836	·121 ·805	32	55 6
7		·o57	1			.031	586				32	7
_	6 .773	742	711	679	.648	617		555	523	492	31	8
8 9	'461	'430	400	369	338	308	277	.246	.512	185	31	9
	154	124	.094	.064	·034	.004	'973	'943	.013	.883	30	1 1
60	5 .853	.823	'794	.764	·735	.402	.675	·646	.616	.282	30	60
1	557	.528	499	470	'441	413	384	355	326	*297	29	1
2	268	*240	211	.183	155	127	98	.070	'042	.013	28	2
3	4 '985	·957	.930	902	.875	847	.819	792	.764	737	28	3
4	.709	.682	.655	629	'602	575	.248	.251	'495	'468	27	4
65	*441	415	.389	.363	'337	.311	.285	.529	233	.207	26	65
6	.181	.126	.130	.102	.080	.022	.029	'004	'979	953	25	6
7	3 '928	904	.879	.855	.830	.806	.782	757	733	708	24	7
8	·68 ₄	.660	.637	.613	.290	.266	542	.219	495	472	24	8
9	.448	425	'403	.380	.328	335	.315	.590	.267	·245	23	9
70	.222	'200	178	.126	134	'113	.001	.069	'047	.025	22	70
1	.003	.085	.001	'940	.010	.899	.878	857	836	·815	21	1
2	2 '794	.774	754	'734	714	.694	.674	.654	.634	614	20	2
3	. 594	°575	.556	537	.218	'499	479	·46o	'441	422	19	3
4	.403	.382	367	'348	'330	.315	'294	.276	'257	.239	18	4
75	.221	.204	.186	.169	152	135	117	.100	.083	.065	17	75
6	·048	·032	.012	.000	'982	.000	·950	.933	·917	.000	16	6
7	1 ·884	·868	.853	.837	.822	·8o6	.790	775	759	744	16	7
8	.728	'713	.699	'684	.669	.655	640	625	.610	.596	15	8
9	·581	.267	553	539	525	.212	'498	·484	'470	.456	14	9
80	.442	429	416	.403	.390	377	.364	.351	.338	325	13	80
1	.312	.300	288	275	263	251	239	.227	214	202	12	1
2	.190	.179	167	.126	144	.133	121	.110	.008	·087	12	2
3	·o75	.064	.054	.043	032	.022	.011	.000	·989	.979	11	3
4	0 '968	.958	948	.938	928	.918	·908	·898	·888·	878	10	4
85	.868	·859	·850	·840	.831	822	.813	·8o4	.794	.785	9	85
в	.776	767	759	750	742	733	724	716	707	.699	9	6
7	.690	.682	674	.666	.658	.651	.643	.635	627	.619	8	7
8	.611	·604	596	.589	.282	.575	.267	.260	553	545	7	8
9	· 5 38	.231	524	.218	.211	504	497	.490	.484	477	7	9
90	'470	·464	·458	452	·446	.440	·434	428	422	.416	6	90
ì	410	404	.399	393	387	382	376	370	364	359	6	1
2	353	'348	343	339	'334	329	324	.319	315	.310	5	2
3	305	.300	295	.501	· 2 86	281	276	271	267	262	5	3
4	·257	.253	'249	246	'242	.238	234	.230	.227	.223	4	4
95	'219	215	211	207	.203	.199	195	191	187	183	4	95
8	179	176	174	171	.169	.199	.163	.191	158	156	3	8
7	.123	151	149	148	146	144	142	140	.139	137	2	7
8	135	132	129	127	124	121	.118	115	113	.110	3	8
9	107	104	102	.099	.096	.094	.001	.088	.082	.083	3	9
100	•080	.076	.071	.067	.062	058			_	_		100
1	·036	5/0			1	230	.054	.049	.045	·040	4	100
	-55	•••	•••	•••	•••		• • • •	•••	•••	•••	•••	_ 1

VALUES OF ANNUITIES

 $O^{M(5)}$

ON FOUR JOINT LIVES OF EQUAL AGE

 $2^{\scriptscriptstyle 1}_{\scriptscriptstyle ar{2}}$ per

\boldsymbol{x}					a_{xxx}	v					Diff.	\boldsymbol{x}
~	· 0	.I	.5	.3	'4	.2	.6	7	-8	.9	Din.	
10 1 2 3 4	17 ·126 16 ·991 ·853 ·708 ·558	'113 '977 '839 '693	.099 .963 .824 .678	.086 .950 .810 .663	°072 °936 °795 °648 °496	.059 .922 .781 .633	°045 '908 '766 '618 '465	°032 °894 °752 °603 °450	°018 ·881 ·737 ·588 ·434	.005 .867 .723 .573	14 14 15 15	10 1 2 3 4
15 6 7 8 9	'403 '243 '077 15 '906 '729	·387 ·226 ·060 ·888 ·711	'371 '210 '043 '871 '692	355 193 026 853 674	339 177 009 835 655	'323 '160 '992 '818 '637	·307 ·143 ·974 ·800 ·619	·291 ·127 ·957 ·782 ·600	.275 .110 .940 .764 .582	°259 °094 °923 °747 °563	16 17 17 18 18	15 6 7 8 9
20 1 2 3 4	*545 *356 *162 14 *961 *755	'526 '337 '142 '940 '734	.507 .317 .122 .920 .712	·488 ·298 ·102 ·899 ·691	·469 ·278 ·082 ·879 ·670	.451 .259 .062 .858 .649	.432 .240 .041 .837 .627	'413 '220 '021 '817 '606	394 201 001 796 585	375 181 981 776 563	19 19 20 21 21	20 1 2 3 4
25 6 7 8 9	'542 '324 '099 13 '868 '633	·520 ·302 ·076 ·845 ·609	.498 .279 .053 .821 .584	.477 .257 .030 .798 .560	'455 '234 '007 '774 '536	.433 .212 .984 .751 .512	·411 ·189 · 960 ·727 ·487	·389 ·167 · 937 ·704 ·463	'368 '144 ' 914 '680 '439	346 122 891 657 414	22 23 23 24 24	25 6 7 8 9
30 1 2 3 4	390 143 12 890 631 368	365 118 864 605	.341 .092 .838 .578	316 067 812 552 288	'291 '042 '786 '526 '261	·267 ·017 ·761 ·500 ·234	.242 .991 .735 .473	'217 '966 '709 '447 '180	192 941 683 421	°168 '915 °657 °394 °127	25 25 26 26 27	30 1 2 3 4
35 6 7 8 9	11 ·826 ·548 ·266 ·10 ·979	.798 .520 .237 .950	°045 '770 '492 '209 '921	°018 °743 °463 °180 °892	'990 '715 '435 '151 '863	•963 •687 •407 •123 •834	• 936 •659 •379 •994 •80 5	.631 .631 .065 .776	·881 ·604 ·322 ·036 ·747	*853 *576 *294 *008 *718	27 28 28 29 29	35 6 7 8 9
40 1 2 3 4	.200 .306 .100 .200	·660 ·366 ·070 ·771 ·470	.630 .337 .040 .741 .439	.601 .307 .010 .711 .409	.572 .278 .980 .681 .379	'543 '248 '951 '651 '349	.218 .620	'484 '189 ' 891 '590 '288	'455 '159 ' 861 '560 '258	.425 .130 .831 .530	29 30 30 30 30	40 1 2 3 4
45 6 7 8 9	197 8 ·894 ·589 ·286 7 ·980	.167 .864 .559 .255 .950	.136 .833 .528 .225	.106 .803 .498 .194 .889	.076 .772 .468 .164 .858	'046 '742 '438 '133 '828	.015 .711 .407 .102 .798	*985 *681 *377 *072 *767	'955 '650 '347 '041 '737	'924 '620 '316 '011 '706	30 31 30 31 30	45 6 7 8 9
50 1 2 3 4	·676 ·373 ·072 6 ·774 ·478	.646 .343 .042 .744 .449	.615 .313 .012 .715 .420	.585 .283 .983 .685 .390	.555 .253 .953 .656 .361	.525 .223 .923 .626 .332	·494 ·192 · 893 ·596 ·303	.464 •162 • 863 •567 •274	'434 '132 '8 34 '537 '244	'403 '102 ' 804 '508 '215	30 30 30 30 29	50 1 2 3 4
L	L	<u> </u>	<u> </u>	<u> </u>	L		1	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>

VALUES OF ANNUITIES

 $O^{M(5)}$

ON FOUR JOINT LIVES OF EQUAL AGE

 $2^{\frac{1}{2}}_{\text{2 cent.}}^{\text{per}}$

$ _x$					a_{xxx}	æ					Diff.	_
	.0	.ı	.5	.3	'4	.2	.6	7	.8	.0	Din.	x
55 6 7 8	6 ·186 5 ·896 ·614 ·335 ·061	*157 *868 *586 *308	*128 *840 *558 *280	.099 .811 .530	.070 .783 .502	'041 '755 '475 '198	'012 '727 '447 '171	983 699 419	'954 '670 '391 '116	'925 '642 '363 '088	29 28 28 27	55 6 7 8
60 1 2 3	4 '793 '532 '277	.767 .507 .252	'741 '481 '227 ' 981	'715 '456 '203	.689 .430 .178	'927 '663 '405 '153 '909	'900 '636 '379 '128 '884	*873 *610 *354 *103 *860	*847 *584 *328 *079 *836	'558 '303 '054	27 26 26 25	9 60 1 2
65 6 7	3 '788 '555 '330 '112	.765 .308	'741 '510 '286	'718 '488 '265 '049	'933 '695 '465 '243 '028	'672 '443 '221 '008	.648 .420 .199	.625 .398 .177 . 966	'602 '375 '156	'578 '353 '134 '924	24 23 23 22 21	3 4 65 6 7
8 9 70 1	2 '903 '702 '510 '326	·883 ·683 ·492 ·308	.863 .664 .473	·843 ·644 ·455 ·273	·823 ·625 ·436 ·256	.803 .606 .418	.782 .587 .400	.762 .568 .381	'742 '548 '363 '185	.722 .529 .344 .168	20 19 18 18	8 9 70 1
2 3 4 75	1 '983 824	'133 '967 '809	'117 '951 '794 '646	'100 '935 '779 '631	.083 .919 .764	.067 .904 .749	.589	.033 .872 .719	.856 .704	'000 '840 '689	17 16 15	2 3 4 75
6 7 8 9	.532 .397 .271	'519 '384 '259 '141	'505 '372 '247 '130	'492 '359 '235 '119	'478 '347 '223 '108	'465 '334 '212 '097	'451 '321 '200 '085	373 '438 '309 '188	'424 '296 '176 '063	'411 '284 '164	14 14 13 12	6 7 8 9
80 1 2 3 4	°041 ° '937 '841 '751 '667	'927 '832 '743 '659	*020 *918 *823 *734 *652	.010 .908 .814 .726 .644	.899 .805 .717 .636	.889 .796 .709 .629	.879 .879 .787 .701 .621	.870 .778 .692 .613	.860 .769 .684	*947 *851 *760 *675 *598	10 10 9 8 8	80 1 2 3 4
85 6 7 8 9	.590 .519 .454 .395	.583 .513 .448 .390	'576 '506 '442 '384 '331	.569 .500 .436 .379 .326	.562 .493 .430 .373 .321	'555 '487 '425 '368 '316	'547 '480 '419 '363	'540 '474 '413 '357 '306	'533 '467 '407 '352 '301	'526 '461 '401 '346 '296	7 7 6 5 5	85 6 7 8 9
90 1 2 3 4	*291 *248 *207 *174 *141	·287 ·244 ·204 ·171 ·139	'282 '240 '200 '167 '136	·278 ·236 ·197 ·164 ·134	.274 .232 .194 .161	'270 '228 '191 '158 '129	·265 ·223 ·187 ·154 ·127	.261 .219 .184 .151	'257 '215 '181 '148	'252 '211 '177 '144	4 4 3 3	90 1 2 3 4
95 6 7 8	°117 °090 °074 °064	'114 '088 '073 '062	.087 .082 .061	.109 .085 .071	131 106 1084 1070 1058	129 104 1082 1069 1056	127 101 1080 1068	*124 *098 *079 *067 *053	.095 .077 .066	.093 .026 .065 .050	3 2 1 2	95 6 7 8
9 100 1	°048 °033 °012		045 029 	°044 °027 		'041 '023		 .038	 .019	·035	2 2 	9 100 1

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$O^{M(5)}$

3 PER CENT.

VALUES OF ANNUITIES

ON TWO, THREE, AND FOUR JOINT LIVES

OF EQUAL AGE.

VALUES OF ANNUITIES

 $\mathbf{OM}(5)$

ON TWO JOINT LIVES OF EQUAL AGE

~			,		a_{xx}						Diff.	20
<i>x</i>	.0	.I	.5	.3	'4	.2	.6	7	-8	.0	DIII.	<i>x</i>
10 1 2 3 4	20 '247 '113 19 '974 '831 '682	°234 °099 °960 '816 '667	'220 '085 '945 '801 '651	·207 ·071 ·931 ·786 ·636	193 1957 1917 1771 1620	180 044 903 757 605	167 030 888 742	153 1016 1874 1727 1574	'140 '002 '860 '712	.126 .988 .845 .697	13 14 14 15	10 1 2 3 4
15 6 7 8 9	•528 •369 •205 •036 18 •861	.512 .353 .188 .019 .843	'496 '336 '171 '001 '825	'480 '320 '154 '984 '807	.464 .303 .137 .966 .789	'449 '287 '121 '949 '771	'433 '271 '104 '931 '752	'417 '254 '087 '914 '734	'401 '238 '070 '896 '716	·385 ·221 ·053 · 879 ·698	16 16 17 18	15 6 7 8 9
20 1 2 3 4	·680 ·494 ·302 ·104 17 ·901	.661 .475 .282 .084 .880	.643 .456 .262 .063	.624 .436 .243 .043 .838	.606 .417 .223 .023 .817	.587 .398 .203 .003	.568 .379 .183 .982 .775	.550 .360 .163 .962 .754	'531 '340 '144 ' 942 '733	'513 '321 '124 ' 921 '712	19 19 . 20 20	20 1 2 3 4
25 6 7 8 9	.691 .476 .254 .026 16 .793	.670 .454 .231 .003 .769	.648 .432 .208 .979 .745	.627 .409 .186 . 956 .721	.605 .387 .163 .933 .697	.584 .365 .140 .910	.562 .343 .117 .886 .649	.321 .094 .863 .625	·519 ·298 ·072 · 840 ·601	.498 .276 .049 .816	22 22 23 23 24	25 6 7 8 9
30 1 2 3 4	.553 .307 .055 .797 .533	.528 .282 .029 .771 .506	'504 '257 '003 '744 '479	479 231 978 718 452	455 206 952 691 425	'430 '181 '926 '665 '398	.405 .156 .900 .639	·381 ·131 ·874 ·612 ·344	.356 .105 .849 .586	.332 .080 .823 .559 .290	25 25 26 26 27	30 1 2 3 4
35 6 7 8 9	·263 14 ·988 ·706 ·419 ·127	·236 ·960 ·677 ·390 ·097	'208 '932 '649 '361 '068	.181 .903 .620 .331 .038	.153 .875 .591 .302 .008	.126 .847 .563 .273 .979	.098 .819 .534 .244 .949	.071 .791 .505 .215 .919	.762 .476 .185 .889	'016 '734 '448 '156 '860	28 28 29 29 30	35 6 7 8 9
40 1 2 3 4	13 ·830 ·528 ·221 12 ·910 ·594	·800 ·497 ·190 ·878 ·562	.770 .467 .159 .847	'739 '436 '128 '815 '498	.709 .405 .097 .784 .466	.679 .375 .066 .752 .435	.649 .344 .034 .720 .403	.619 .313 .003 .689	.588 .282 .972 .657 .339	.558 .252 .941 .626 .307	30 31 31 32 32	40 1 2 3 4
45 6 7 8 9	°275 11 °952 °626 °297 10 °966	°243 °919 °593 °264 °933	.210 .887 .560 .231 .899	.178 .854 .527 .198 .866	146 822 494 165 832	789 7462 132 799	.756 .429 .098 .766	.049 .724 .396 .065 .732	.691 .363 .032 .699	.659 .330 .999 .665	32 33 33 33 33	45 6 7 8 9
50 1 2 3 4	·632 ·298 9 ·962 ·625 ·289	.599 .264 .928 .591 .256	.565 .231 .895 .558	.532 .197 .861 .524 .189	.498 .164 .827 .491	'465 '130 '794 '457 '122	'432 '096 '760 '423 '088	.398 .063 .726 .390	.365 .029 .692 .356	'331 '996 '659 '323 '988	33 34 34 34 34	50 1 2 3 4
L		<u> </u>	<u> </u>	1	<u> </u>	1	l	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>

VALUES OF ANNUITIES

 $O^{M(5)}$

ON TWO JOINT LIVES OF EQUAL AGE

B PER

$\begin{bmatrix} x \end{bmatrix}$. :				a_{xx}						Diff.	x
	•	.I	.5	.3	'4	•5	.6	7	.8	.0	Din.	at
55 6 7 8 9	8 954 619 285 7 954 626	.921 .586 .252 .921	·887 ·552 ·219 ·888 ·561	·854 ·519 ·186 ·856 ·528	·820 ·485 ·153 ·823 ·496	'787 '452 '120 '790 '463	753 '419 '086 '757 '430	.720 .385 .053 .724 .398	686 352 020 692 365	.653 .318 .987 .659	34 33 33 33 33	55 6 7 8 9
60 1 2 3 4	300 6 '979 '661 '349 '041	*268 *947 *630 *318	'236 '915 '599 '287 ' 98 1	204 884 567 257	172 852 536 226 921	'140 '820 '505 '195 '891	788 474 164 860	.756 .443 .133 .830	'043 '725 '411 '103 ' 800	.693 .380 .072 .770	32 32 31 31 30	60 1 2 3 4
85 6 7 8 9	5 '740 '444 '156 4 '874 '599	'710 '415 '128 '847 '572	.681 .386 .100 .819 .546	.651 .358 .071 .792 .519	.622 .329 .043 .764 .493	'592 '300 '015 '737 '466	.562 .271 .987 .709 .439	533 242 959 682 413	.503 .214 .930 .654 .386	'474 '185 '902 '627 '360	30 29 28 28 27	65 6 7 8 9
70 .1 2 3 4	333 • 974 3 · 824 • 582 • 350	*307 049 *800 *559 *328	'281 '024 '776 '536 '305	*255 *999 *751 *512 *283	·229 ·974 ·727 ·489 ·260	'204 '949 '703 '466 '238	•178 • 924 •679 •443 •216	*152 *899 *655 *420 *193	.874 .630 .396 .171	*849 *606 *373 *148	26 25 24 23 22	70 1 2 3 4
75 6 7 8 9	126 2 '911 '705 '508 '320	.890 .685 .489	.083 .870 .66 6 .470 .284	.646 .452 .267	.626 .433 .249	.607 .414 .231	'997 '787 '587 '395 '213	•976 •767 •567 •376 •195	'954 '746 '547 '358 '178	'933 '726 '528 '339 '160	22 21 20 19 18	75 6 7 8 9
80 1 2 3 4	1 '972 1 '972 '812 '660 '516	'125 '956 '797 '646 '503	'108 '940 '782 '631 '489	'924 '766 '617 '476	.074 .908 .751 .602 .462	'057 '892 '736 '588 '449	.876 .721 .574 .435	.023 .860 .706 .559 .422	*844 *690 *545 *408	.828 .675 .530 .395	17 16 15 14 14	80 1 2 3 4
85 6 7 8 9	°381 °254 °135 °024 0 °921	'368 '242 '124 '014 '911	'356 '230 '113 '003	343 218 102 993 892	.330 .206 .091 .983 .882	318 195 1980 1973 1873	.305 .068 .068 .863	.292 .171 .057 .952 .853	'279 '159 '046 '942 '843	·267 ·147 ·035 · 931 ·834	13 12 11 10	85 6 7 8 9
90 1 2 3 4	·824 ·736 ·651 ·578 ·505	·815 ·728 ·644 ·571 ·499	·806 ·719 ·636 ·563 ·493	798 711 629 556 487	.789 .702 .622 .549 .481	.780 .694 .615 .542 .475	.771 .685 .607 .534 .468	762 677 600 527 462	754 668 593 520 456	745 660 585 512 450	9 9 7 7 6	90 1 2 3 4
95 6 7 8 9	'444 '382 '339 '304 '253	'438 '378 '336 '299 '248	'432 '373 '332 '294 '242	'425 '369 '329 '289 '237	'419 '365 '325 '284 '231	'413 '361 '322 '279 '226	'407 '356 '318 '273 '220	352 315 268	394 348 311 263	'388 '343 '308 '258 '204	6 4 4 5 6	95 6 7 8 9
100 1	108			·171	•162 	·153	'I44 		·126		9	100

VALUES OF ANNUITIES

 $O^{\mathbf{M}(5)}$

ON THREE JOINT LIVES OF EQUAL AGE

					a_{xx}	r					Diff.	
	.0	J.	.5	.3	·4	. 5	.6	7	.8	.0	Dill.	x
10 1 2 3 4	17 '808 '684 '556 '422 '284	'796 '671 '543 '408	783 658 529 394	'771 '646 '516 '381	758 633 502 367	746 620 489 353	734 ·607 ·476 ·339 ·198	'721 '594 '462 '325 '183	'709 '582 '449 '312	.696 .569 .435 .298	12 13 13 14	10 1 2 3 4
15 6 7 8 9	140 16 '992 '838 '679	'125 '977 '822 '663	'110 '961 '806 '646 '480	'096 '946 '790 '630 '463	'081 '930 '774 '613 '446	'066 '915 '759 '597 '429	'051 '900 '743 '580 '412	°036 °884 °727 °564 °395	'022 '869 '711 '547 '378	'007 '853 '695 '531	15 15 16 17	15 6 7 8 9
20 1 2 3 4	'344 '168 15 '986 '799 '605	'326 '150 '967 '780 '585	'309 '132 '949 '760 '565	·291 ·113 ·930 ·741 ·545	.274 .095 .911 .721 .525	256 277 893 702 505	·238 ·059 ·874 ·683 ·485	.221 .041 .855 .663 .465	'203 '022 '836 '644 '445	186 004 818 624 425	18 18 19 19	20 1 2 3 4
25 6 7 8 9	'405 '201 14' '989 '772 '549	385 180 967 750 526	'364 '159 '946 '727 '503	'344 '137 '924 '705 '480	·323 ·116 ·902 ·683 ·457	'303 '095 '881 '661 '434	·283 ·074 ·859 ·638 ·411	·262 ·053 ·837 ·616 ·388	'242 '031 '815 '594 '365	'221 '010 '794 '571 '342	20 21 22 22 23	25 6 7 8 9
30 1 2 3 4	319 •085 13 ·844 •597 •345	.296 .061 .819 .572 .319	·272 ·037 ·795 ·547 ·293	'249 '013 '770 '521 '268	.225 .989 .745 .496 .242	.202 .9 65 .721 .471 .216	'179 ' 940 '696 '446 '190	.155 916 .671 .421 .164	.132 .892 .646 .395	108 868 622 370	23 24 25 25 26	30 1 2 3 4
35 6 7 8 9	*087 12 824 *555 *282	.797 .528 .254 .976	.034 .770 .500 .226 .948	.008 .743 .473 .199 . 919	'982 '716 '446 '171 '891	.690 .419 .143 .863	929 663 391 115 835	.636 .364 .087 .807	·877 ·609 ·337 ·060 ·778	*850 *582 *309 *032 *750	26 27 27 28 28	35 6 7 8 9
40 1 2 3 4	11 '722 '435 '143 10 '849 '551	.693 .406 .114 .819	.665 .377 .084 .789 .491	.636 .347 .055 .760 .461	.607 .318 .025 .730 .431	.579 .289 .996 .700 .401	.550 .260 .967 .670	'521 '231 '937 '640 '340	'492 '201 '908 '611	.464 .172 . 878 .581 .280	29 29 29 30 30	40 1 2 3 4
45 6 7 8 9	9 '947 642 335	'220 '917 '611 '304 '996	.189 .886 .581 .273 .965	.856 .550 .243	'129 '825 '519 '212 '903	.795 .489 .181 .873	.068 .764 .458 .150 .842	°038 °734 °427 °119 '811	.703 .396 .089	.673 .366 .058	30 31 31 31	45 6 7 8 9
50 1 2 3 4	8 '718 '409 '100 7 '791 '485	·687 ·378 ·069 ·760 ·455	'656 '347 '038 '730 '424	.625 .316 .007 .699	'594 '285 '976 '669 '363	.564 .255 .946 .638 .333	'533 '224 '915 '607 '302	'502 '193 ' 884 '577 '272	'471 '162 ' 853 '546 '241	'440 '131 ' 822 '516 '211	31 31 31 31	50 1 2 3 4

VALUES OF ANNUITIES

 $O^{M(5)}$

ON THREE JOINT LIVES OF EQUAL AGE

											1	1
					a_{xx}	r						
x		<u> </u>	l			1	1 .	l	<u> </u>	T	Diff.	x
	.0	.I	.5	.3	'4	·5	.6	.7	.8	.0		
							0	60	0			
55 6	7 '130 6 '877	·150 ·847	817	·089 ·787	.059	728	.698	.668	.638	.608	30	55 6
7	578	·548	519	489	.757 .460	430	'400	·37 I	'341	312	30 30	7
8	282	253	224	194	.162	136	107	.078	.048	.010	29	8
9	5 '990	.961	932	904	·875	·846	817	·788	760	731	. 29	9
60	702	.674	.645	.617	·589	.261	532	504	476	.447	28	60
1	'419	·39 i	.364	336	·308	281	.253	.225	197	170	28	1
2	142	1115	.088	.001	·034	.002	'979	952	.025	898	. 27	2
8	4 871	.845	.818	792	.765	. 739	712	.686	.659	.633	27	3
4	.606	.280	554	.28	.202	'477	451	425	399	373	. 26	4
65	'347	.322	.297	272	·247	.222	196	171	146	.131	. 25	65
6	. 096	072	'047	.023	'998	974	950	925	.001	876	24	6
7.	3 '852	.828	.805	'781	.758	734	710	'687	.663	'640	24	8
8	.616	593	.570	*547	·524	.222	479	456	433	'410	.23	9
1 1	'387	.365	'343	321	*299	277	255	·233	211	.189	22	
70	167	146	125	103	·082 ·873	·853	.833	·812	997	.976	21	70 1
1 2	2 '955	'935 '732	'914 '712	·894 ·693	.673	654	634	615	792 595	.271 .276	20 20	2
3	.751 .556	537	.519	.200	·481	463	444	425	406	388	19	3
4	•369	351	333	316	1298	280	.262	'244	227	209	18	4
75	.191	174	157	140	123	107	.090	.073	.056	039	17	75
8	022	.006	.000	974	958	.042	925	.000	.893	877	16	6
7	т .861	·846	.830	815	.800	.785	769	754	739	723	15	7
8	.708	·694	.679	.665	·650	.636	.621	.607	·592	.578	15	8
9	•563	. 549	.236	.22	•509	'495	.481	·468	454	'441	14	9
80	427	414	' 401	.389	.376	.363	.350	'337	325	312	13	80
1	.599	.287	·275	.263	.521	.539	.556	214	'202	.190	· I 2	1
2	178	167	155	144	.133	122	.110	.099	.088	.076	· I I	2
3 4	°065	.022	°044	'034	.023	.013	002	· 992	.881	:97I	11	3 4
1 - i	0 '960	950	.940	.930	920	911	.901			.871	10	_ [
85	·861	·852 ·762	.843	.834	·825	·816 ·728	.806	797	·788	779	9	85 6
8 7	.770 .685	677	753	.45 .661	.736 .653	.646	.719 .638	·630	.622	.614	. 8	7
8	.606	599	.592	.584	577	.570	.263	.226	.548	'541	. 7	8
9	' 534	527	.251	514	507	.201	494	.487	480	474	. 7	9
90	467	.461	455	.449	443	.438	432	·426	.420	414	. 6	90
ı i	408	'402	397	.391	385	.380	374	368	.362	357	6	1
2	·351	346	'341	337	.332	327	322	317	313	.308	5	2
8	.303	298	293	·289	·284	.279	274	269	.562	.590	5	3
4	°255	.521	'248	244	'240	'237	'233	'229	.552	.555	. 4	4
95	'218	'214	'210	.506	.202	.198	194	.190	.186	.185	4	95
6	178	175	173	170	.168	165	162	.160	157	155	3	6
7 8	152	150	148	147	145	143	141	139	1138	.136	2	8
9	134 106	.103	128	126	°123	°120	.090	°114 °087	.084	.085	3	9
			l			I .		1		1	3	100
100	.079	·o75	.070	.066	.062	.028	.023	.049	.042	'040	4	100
_	·036	•••	•••	•••	•••		•••		•••	•••	•••	

VALUES OF ANNUITIES

 $O^{M(5)}$

ON FOUR JOINT LIVES OF EQUAL AGE

x 0 1 2 3 4 5 6 7 8 9 10 15 '936' '925' '913' '902' '891' '880' '868' '857' '846' '834' 11 2 '706' '694' '682' '669' '657' '645' '633' '621' '608' '596' 12 3 '584' '571' '558' '546' '533' '520' '507' '494' '482' '469' 13 4 '456' '443' '430' '416' '403' '390' '377' '364' '350' '337' '364' '350' '337' '364' '350' '337' '364' '350' '337' '364' '350' '337' '364' '350' '337' '364' '350' '337' '364' '350' '337' '364' '350' '337' '369' '365' '242' '228' '214' '201'	x
10	
1 .823 .811 .800 .788 .776 .765 .753 .741 .729 .718 12 2 .706 .694 .682 .669 .657 .645 .633 .621 .608 .596 12 3 .584 .571 .558 .546 .533 .520 .507 .494 .482 .469 13 4 .456 .443 .430 .416 .403 .390 .377 .364 .350 .337 13 15 .324 .310 .297 .283 .269 .256 .242 .228 .214 .201 14 .66 .187 .173 .159 .144 .130 .116 .102 .088 .073 .059 .14 7 .045 .030 .016 .001 .986 .972 .957 .942 .927 .913 .15 8 .14 .898 .883 .867 .852 .837 .822 .806 .791 .776 .760 .15 </th <th></th>	
15 324 310 297 283 269 256 242 228 214 201 14 6 187 173 159 144 130 116 102 088 073 059 14 7 045 030 016 001 986 972 957 942 927 913 15 8 14 898 883 867 852 837 822 806 791 776 760 15 9 745 729 713 697 681 666 650 634 618 602 16 20 586 570 553 537 520 504 488 471 455 438 16 1 422 405 388 371 354 338 321 304 287 270 17 2 253 236 218 201 183 1	10 1 2 3 4
1 422 '405 '388 '371 '354 '338 '321 '304 '287 '270 17 2 '253 '236 '218 '201 '183 '166 '148 '131 '113 '096 18 3 '078 '060 '042 '023 '005 '987 '969 '951 '932 '914 18 4 13 '896 '877 '859 '840 '821 '803 '784 '765 '746 '728 19 25 '709 '690 '671 '651 '632 '613 '594 '575 '555 '536 19 6 '517 '497 '477 '457 '437 '418 '398 '378 '358 '338 20 7 '318 '298 '277 '257 '236 '216 '195 '175 '154 '134 21 8 '113 '092 '071 '050 '029 '008 '987 '966 '945 '924 21	15 6 7 8 9
6 '517 '497 '477 '457 '437 '418 '398 '378 '358 '338 20 7 '318 '298 '277 '257 '236 '216 '195 '175 '154 '134 21 8 '113 '092 '071 '050 '029 '008 '987 '966 '945 '924 21 9 12 '903 '881 '860 '838 '817 '795 '773 '752 '730 '709 22 30 '687 '665 '643 '621 '599 '577 '554 '532 '510 '488 22 1 '466 '443 '421 '398 '375 '353 '330 '307 '284 '262 23 2 '239 '216 '192 '169 '145 '122 '099 '075 '052 '028 23 3 '005 '981 '957 '934 '910 '886 '862 '838 '815 '791 2	20 1 2 3 4
1 '466 '443 '421 '398 '375 '353 '330 '307 '284 '262 23 2 '239 '216 '192 '169 '145 '122 '099 '075 '052 '028 23 3 '005 '981 '957 '934 '910 '886 '862 '838 '815 '791 24	25 6 7 8 9
4 11 '767 '743 '718 '694 '670 '646 '621 '597 '573 '548 24	30 1 2 3 4
35 '524 '499 '474 '450 '425 '400 '375 '350 '326 '301 25 6 '276 '251 '225 '200 '174 '149 '124 '098 '073 '047 '25 7 '022 '996 '970 '945 '919 '893 '867 '841 '816 '790 26 8 '10 '764 '738 '712 '685 '659 '633 '607 '581 '554 '528 26 9 '502 '475 '449 '422 '396 '369 '342 '316 '289 '263 27	35 6 7 8 9
40 '236 '209 '182 '155 '128 '101 '047 '047 '020 '993 27 9 '966 '939 '911 '884 '856 '829 '802 '774 '747 '719 27 2 '692 '664 '637 '609 '582 '554 '526 '499 '471 '444 28 3 '416 '388 '360 '332 '304 '277 '249 '221 '193 '165 28 4 '137 '109 '081 '052 '024 '996 '968 '940 '911 '883 28	40 1 2 3 4
45 8 '855 '827 '798 '770 '742 '714 '685 '657 '629 '600 28 6 '572 '544 '515 '487 '458 '430 '401 '373 '344 '316 29 7 '287 '259 '230 '202 '173 '145 '116 '088 '059 '031 29 8 '002 '973 '659 '659 '650 '602 '573 '544 '516 '487 '459 29 9 7 '716 '687 '659 '659 '600 '573 '544 '516 '487 '459 29	45 6 7 8 9
50 '430 '401 '373 '344 '316 '287 '258 '230 '201 '173 29 1 '144 '116 '087 '059 '030 '002 '974 '945 '917 '888 28 2 6 '860 '832 '803 '775 '747 '719 '690 '662 '634 '605 28 3 '577 '549 '521 '493 '465 '437 '408 '380 '352 '324 '28 4 '296 '268 '241 '213 '185 '158 '130 '102 '074 '047 28	50 1 2 3 4

VALUES OF ANNUITIES

 $O^{M(5)}$

ON FOUR JOINT LIVES OF EQUAL AGE

x				-	a_{xxx}	v		_			D:4	$ _x$
	•0	ı.	.5	.3	'4	.2	.6	7	-8	.0	Diff.	
55 6	6 °019 5 '744	'992 '717	.690	·937 ·663	.63 6	· 882	854	.827	.799	.772	28 27	55 6
7	473	446	420	393	.366	340	313	286	259	.533	27	7
8	206	.180	153	127	101	.075	048	022	.000	.000	26	8
9	4 '943	917	.892	·866	·840	815	789	.763	737	712	26	9
60	.686	·661	.636	.610	.585	.260	535	'510	'484	459	25	60
1	'434	·410	38 ₅	.361	.336	312	287	.263	238	214	25	1
2	.189	165	141	117	.093	.069	.042	.031	997	.973	24	2
8	3 '949	·926	902	879	·856	833	.809	.786	.763	.739	23	8
4	.716	.693	.671	·648	.626	.603	·580	•558	535	.213	23	4
65	' 490	·468	.446	425	·403	.381	359	·337	.316	.294	22	65
6	.272	.221	.530	.209	.188	167	145	124	.103	082	2 I	6
7	.061	·041	.020	.000	.979	'959	.039	.018	.898	877	20	7
8 9	2 .857	·837	818	798	779	759	739	.720	.700	.681	20	8
1 1	.661	.642	.623	.605	.286	.262	.548	·529	.211	'492	19	1 1
70	. 473	. 455	437	'419	'401	'384	.366	·348	.330	.312	18	70
1 2	°2 94	277	260	242	225	'208	.191	'I 74	.126	139	17	1 2
8	122	,106	.089	.073	.056	'040	024	.007	.001	.974	16	8
4	1 '958 '803	943	927	912	·896	188	.865	·850	·834 ·685	.819	16	4
75		.788	773	759	. 744	729	714	.699	1	.670	15	
6	655	'641	627	613	599	:585	571	557	543	529	14	75 6
7	·515 ·383	.202	'489	475	'462	449	.436	423	409	396	13	7
8	3°3 •259	'371 '247	·358 ·236	'346 '224	'333 '212	'32I '20I	.309	°296	·284	'271 '154	I 2 I 2	8
9	142	131	120	.100	.098	.087	.076	.065	.054	.043	11	9
80	032	.022	110.	100.	.001	.081	.970	.000	.050	.939	10	80
ĭ	0 '929	920	.910	.901	.891	.882	872	.863	853	844	10	ĭ
2	.834	.825	.816	.807	.798	.790	781	772	.763	754	9	2
8	745	737	728	.720	.712	.704	.695	· 6 87	.679	670	8	8
4	.662	654	647	.639	632	624	.616	609	.601	594	8	4
85	•586	·579	572	.565	.558	.221	.544	.537	.530	.523	7	85
6	.216	.210	.203	497	'490	.484	477	471	.464	.458	7	6
7	.451	445	439	433	'427	422	.416	410	.404	.398	6	7
8	·392	387	.381	.376	'37 I	•366	.360	35 5	.320	[*] 344	5	8
9	. 339	[*] 334	'329	·324	.319	'314	.309	`3 04	.599	*294	5	9
90	·28 9	•285	.581	.276	.272	•268	.264	.260	·255	.521	4	90
1	'247	243	.539	235	.531	.552	.553	.518	214	210	4	1
3	206	.503	.199	196	193	.190	.186	183	.180	176	3	2
4	173	170	.199	163	.160	157	153	150	147	143	3	3 4
_	140	.138	.132	133	.130	128	126	123	121	.118	2	
95 6	.116	.113	.087	.108	.106 .084	.103	.100	.098	.092	.093	3	95
7	*074	.000	007	005	070	.083	.099	.079	°077	076	2 1	8 7
8	·064	.062	.061	.029	.058	·056	054	·053	.021	.020	2	8
9	'048	·047	'045	.044	030	.041	.039	.038	.036	.032	2	9
100	.033	.031	.029	.027	025	.023	'020	,018	.019	'014	2	100
1	012											1
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$O^{M(5)}$

3½ PER CENT.

VALUES OF ANNUITIES

ON TWO, THREE, AND FOUR JOINT LIVES

OF EQUAL AGE.

VALUES OF ANNUITIES

 $O^{M(5)}$

ON TWO JOINT LIVES OF EQUAL AGE

					Oux							
x											Diff.	\boldsymbol{x}
"	•	ı.	·2	.3	·4	·5	.6	.7	.8	.0	υш.	"
 					-							
1 1												
10	18 .634	623	.612	·601	.290	·579	.568	. 557	.546	535	11	10
1	°524	.213	.205	·490	479	.468	457	·446	434	423	11	1
2	412	'400	.388	377	.362	353	'341	.329	.318	.306	I 2	2
3	·294	.282	270	257	245	·233	221	209	.196	184	I 2	8
4	172	.1 29	147	134	.151	.100	.096	.083	.040	.028	13	4
15	·045	·032	.019	.006	.993	.086.	.000	'953	.040	.027	13	15
6	17 '914	.000	.887	.873	.859	·846··	832	.818	.804	791	14	6
7	777	.763	749	735	.721	707	.693	.679	.665	.621	14	7
8	.637	'622	.608	593	.578	.264	549	'534	'519	.202	15	8
9	. 490	. 475	'460	445	'430	.412	.399	'384	.369	[*] 354	15	9
20	'3 39	.323	.308	.595	:276	.561	.245	.229	.513	.198	16	20
1	182	.166	150	.133	1117	.101	.082	.069	.025	.036	16	1
2	.020	.003	.986	.020	'9 53	.030	.010	.005	.886	.869	17	2
8	16 .852	.835	.817	.800	.783	.766	748	.73 I	714	.696	17	8
4	.679	.661	.643	625	.607	.290	·572	·554	.236	.218	18	4
25	.200	·482	'463	'445	. 426	.408	.389	·371	.352	334	19	25
6	315	'296	277	258	239	.220	.501	182	163	144	19	в
7	125	.102	.086	.066	.046	.027	.002	.987	'967	.048	20	7
8	15 '928	908	.888	.867	847	827	.807	.787	.766	746	20	8
9	726	705	.684	.663	.642	.622	.601	.280	.223	.238	21	9
30	.217	·496	474	453	'43 I	'410	.389	'367	'346	'324	2 I	30
1	.303	.581	.529	237	.512	.193	171	149	127	.102	22	1
2	.083	.060	.038	015	992	970	'947	.924	.001	.879	23	2
3 4	14 *856	.833	.810	786	.763	740	717	694	.670	.647	23	3
*	.624	.600	.576	553	·529	.202	.481	'457	'434	'410	24	4
35	•386	.362	337	.313	288	.264	'240	215	.191	.166	24	35
6	142	117	.092	.067	.042	.012	.005	.967	'942	.012	25	6
7	13 .892	.866	841	815	790	764	'738	713	:687	'662	26	7
8	636	.610	:584	558	532	.506	479	453	'427 '162	'401	26	8 9
ľ	375	'348	.322	.592	'269	'242	.512	.189	ŀ	.136	27	
40	.100	082	.022	'027	.000	·973	.046	.010	.801	·864	27	40
1	12 .837	.809	782	754	726	.699	.671	643	615	.588	28	1
2	·560	.232	504	475	447	'419	.391	·363 ·078	334	306	28	3
3	11 '992	963	934	905	·164 ·876	·135 ·847	106	.788	759	730	29 29	4
1	l	1	1	1 '	1 '	1	i .'		ì	1		
45	'701	672	642	613	:583	:554	525	495	.466 .168	436	29	45
7	407. 108	978	347	018	·287 ·988	·258 ·958	927	·198	867	·138 ·837	30	7
8	10 .807	777	746	716	685	.655	624	594	563	533	31	8
l ĕ	502	471	441	410	379	349	.318	287	256	226	31	9
		1		1	ł	1	-	1	r -	١.		1
50 1	9 .885	'164 '854	·133	102	761°	.040	.608	·667	'947 '636	·605	31	50
2	574	543	511	.480	449	730	.698 .386	355	324	.292	31	2
3	261	230	.198	167	136	105	.073	042	011	.979	31	3
4	8 '948	917	885	.854	.822	791	760	728	.697	.665	31	4
1	'	' '	"	"	Į.	1.	'		'			

VALUES OF ANNUITIES

 $\mathbf{OM}(5)$

ON TWO JOINT LIVES OF EQUAL AGE

31 PER 2 CENT.

- 1	- ,											7
$ _x $					axx						Diff.	$ _{x} $
	•0	ı.	.5	.3	·4	.2	.6	7	.8	.0	Ди.	
55	8 .634	603	.571	.540	.209	.478	446	'415	.384	352	31	55
6	'321	290	258	.227	.196	165	133	102	170	'039	31	6
8	600	.666	:646	915	·884	.853	.821	790	759	728	31	7
9	7 ^{.6} 97 -387	356	.635	.604 .505	.573 .264	233	'511 '202	480	449	418	31	8
60			.018	'988	•		1	171	141	.110	. 31	1 1
1	°779 6 '775	·049	715	684	957	·624	.897	.866	836	805	30	60
2	473	'745 '443	414	384	.654 .354	325	.594 .295	265	533	.206	30	1 2
3	176	147	117	.088	059	.030	.000	.971	'235 '942	912	30 29	3
4	5 .883	854	825	797	.768	739	.710	.681	653	624	29	4
65	·595	.567	.538	.210	·482	454	425	.397	.369	'340	28	65
6	373	284	257	229	201	174	146	.118	.000	063	28	8
7	.035	.008	.081	954	.927	.000	872	·845	818	791	27	7
8	4 '764	.738	.711	685	659	.633	.606	.280	554	527	26	8
9	.201	475	'450	424	.398	373	347	.321	295	270	26	9
70	'244	.219	194	.169	144	1119	'094	·069	.044	.019	25	70
1	3 '994	970	946	.921	.897	.873	.849	825	.800	776	24	1
2	752	.729	705	.683	·6 ₅ 8	.635	.613	.288	565	541	23	2
8	.218	495	473	'450	428	'405	.385	.360	337	.312	23	8
4	.595	.270	.248	.227	205	.183	.191	.139	.118	.096	22	4
75		.023	.032	110.	.000	.070	·949	·9 2 8	.002	.886	21	75
6	2 .865	.845	.825	.802	.785	765	744	724	704	684	20	6
7	.664	.645	.626	.606	.587	.268	549	.230	.210	'491	-19	7
8 9	*472 *289	454	435	417	399	.381	'362 '184	344	326	307	18	8 9
1 1		.272	'254	'237	.519	202	1	167	149	.135	18	1 1
80	114	.097	.081	664	·048	.031	'014	.008	.081	'965	17	80
1 2	1 '948	932	.460	.901	·885	·869	853	·837 ·686	.822	.806	. 16	1 2
3	.790 .641	775 627	.613	'745 '599	.73° .585	.571	·701	l .	671	.656	15	8
4	.200	.487	473	.460	447	434	'420	.542 .407	'528 '394	380	14.	4
85	367	355	342	l -	317	305	'292	280	267		1	85
6	242	.530	219	330	195	184	172	.160	148	·255 ·137	13	6
7	125	1114	.103	092	.081	.070	.059	.048	.037	026	11	7
8	.012	.002	995	·984	.974	.964	954	944	.933	.023	10	8
9	0 '913	.903	894	.884	·875	.865	.855	·846	.836	827	10	9
90	.817	·808	.800	·791	.782	.774	765	756	747	739	و ٠	90
1	730	.722	.413	.705	.697	.689	·68o	672	.664	655	8	1
2	·647	.640	.632	625	.618	.611	.603	596	589	.281	7	2
3	*574	.267	:559	.2252	545	:538	.230	·523	.216	.208	7	3
4	.201	[.] 495	'489	'483	·477	'471	'465	· 4 59	453	'447	6	4
95	. 441	435	'429	422	.416	'410	'404	.398	.391	.382	6	95
6	379	375	371	.366	.362	358	354	.320	345	341	4	6
7 8	'337	334	.330	327	323	.320	'316	313	.309	'306	4	7
9	·302	297	292	287	.282	277	272	267	262	¹²⁵⁷	5 6	8
1 1	.252	'247	241	.236	'230	.225	219	'214	'208	.503	l	
100	197	.188	.179	170	.191	152	143	134	.132	.116	9	100
1 1	107					1		l			!	1
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VALUES OF ANNUITIES

OM(5)

ON THREE JOINT LIVES OF EQUAL AGE

 $3^{\frac{1}{2}}_{\text{CENT.}}^{\text{PER}}$

$ _x$		4			a_{xxx}				-		Diff.	$ _x$
	·o	T	2	.3	'4	•5	.6	7	⋅8	.9		-
<u> </u>	l	<u> </u>		<u> </u>				<u> </u>	ļ			
10	16 '525	.212	.504	.494	·484	474	.463	453	443	'432	10	10
1	'422	411	'401	.390	379	369	.358	347	336	326	11	i
2	315	·304	.563	.581	.270	.529	.248	·237	.225	'214	11	2
3 4	°203	·191 ·075	.063	.168	157	145	133 1014	'I 22 '002	.110	.099	12	3 4
1	1		•		.039	1	1 .	ł	.990	978	12	
15 6	15 '966 '841	'954 '828	·941 ·815	.802	'916 '789	·904	·891	·879 ·749	·866 ·736	·854 ·723	13 13	15 6
7	710	.697	:683	.670	.656	.643	.629	.616	.602	589	14	7
8	.575	.261	547	533	.219	.202	'490	.476	.462	448	14	8
9	'434	.419	'405	.390	.376	.361	'346	·332	'317	.303	15	9
20	·288	273	.258	'243	.558	.513	197	.185	.164	152	15	20
1 2	137 14 '981	·121	106 1948	.090	.075 .016	900	.883	·028 ·867	°012	'997 '834	-16	1 2
8	818	.801	784	768	751	734	717	.700	.684	.667	16 17	8
4	.650	633	615	.598	.281	564	.546	529	512	·494	17	4
25	·477	459	.441	423	405	.387	.369	.351	333	.315	18	25
6	297	.279	260	.242	.553	205	.186	.198	149	.131	19	6
7 8	1112	.093	.074	.055	.036	.017	997	978	.020	940	19	7
9	13 '921 '725	'901 '705	·882 ·684	·862 ·664	·843 ·644	·823 ·624	·803	.784 .583	·764 ·563	745 542	20 20	8
30			·480	i i				_	_			
ĭ	.522 .314	.293	271	.460 .250	'439 '228	'418 '207	397 185	·376 ·164	.356 .142	335	2 I 22	30
2	.099	·077	.055	.033	110.	.080	967	945	.023	.001	22	2
8	12 .879	.856	.834	.811	'789	.766	743	.721	.698	.676	23	3
4	.653	·630	.607	.584	.261	.238	'514	. 491	'468	'445	23	4
35	422	:398	375	.321	327	304	.580	256	.535	209	. 24	35
6 7	'185 11 '942	'161 '917	·893	·112	·088 ·843	.819	'039 '794	·015	'99 I	'966 '720	24	6 7
8	695	.670	.645	.619	594	.269	544	.219	493	468	25 25	8
9	'443	'417	.391	.366	'340	314	288	.565	'237	.511	26	9
40	185	.129	.133	.106	.080	.054	.028	002	.975	.949	. 26	40
1	10 '923	.896	.870	.843	·817	790	.763	737	.710	.684	27	1
3	·657 ·386	·630 ·359	603	576	549	522	494	.467	'440	'413	27	2
4	112	·084	'331 '057	'304 '029	'276 '001	·249 · 974	·222 ·946	'194 '9 18	·167	.863	27 28	3 4
45	9 835	·8o7	779	.751	.723	.695	.666	.638	.610	.282	28	45
6	554	.26	497	469	441	413	.384	·356	328	.505	28	6
7	.271	·243	'214	.186	157	129	:100	'072	.043	.012	29	7
8	8 [.] 986	.669	928	.612	·871	.842	813	784	756	727	29	8
1		1 1	•		.283	554	525	·496	.468	·439	29	9
50	'410 '120	.381	.352 .062	323	°294	·265 · 975	236	207	·178	149	29	50
2	7 .830	.801	772	°033	714	685	.656	'917 '627	1598	*859 *569	29 29	2
8	.540	.211	482	453	424	.396	.367	.338	.309	.580	29	8
4	.221	.555	.193	.162	.136	107	.078	· 0 49	.031	.005	29	4
<u></u>	<u> </u>							<u> </u>	<u> </u>	<u> </u>		

VALUES OF ANNUITIES

 $O^{M(5)}$

ON THREE JOINT LIVES OF EQUAL AGE

 3^{1}_{2} per

	1			=							1	
\boldsymbol{x}					a_{xxx}						D:e	$ _{x}$
	•	π.	.5	.3	'4	·5	.6	7	.8	.0	Diff.	.c
55	6 '963	'934	.906	.877	.849	.820	791	'763	'73'4	.706	29	55
6	.677	.649	.620	.292	.263	.535	.206	.478	449	421	29	6
7	.392	364	.336	308	280	252	.223	195	167	.139	28	7
8	111.	·083	.022	·028	.000	.072	'944	.016	889	.861	28	8
9	5 .833	.806	.778	.421	.723	.696	.668	·641	.613	.586	28	9
60	.558	.231	.204	477	450	423	395	.368	'341	314	27	60
1	1287	·261	234	.208	.181	155	128	102	.075	.049	27	1
2	.022	.000	.040	'944	.918	892	·865	.839	.813	.787	26	2
3	4 '761	.736	710	.685	.659	634	.608	.283	557	'53 ²	26	3
4	.206	481	456	'431	'406	.382	357	`332	.302	.585	25	4
65	·257	·233	.209	184	.160	.136	1112	.088	.063	.039	24	65
6	.012	.001	.008	'944	.021	897	873	.850	.826	.803	24	6
7	3 779	.756	733	.710	.687	.665	642	.619.	.296	573	23	7
8	:550	.528	.206	483	.461	439	'417	·395	.372	.320	22	8
9	.328	·307	.582	'264	'242	.551	'200	178	157	.132	2 I	9
70	1114	.093	.073	.025	.032	110.	.000	'970	949	.020	21	70
1	2 '908	·888·	.868	.848	·828	.809	.789	.769	749	729	20	1
2	.709	.690	.671	.652	.633	614	·595	.576	'557	.238	19	2
3	.219	.201	483	'464	'446	428	'410	392	'373	355	18	8
4	'337	.320	.305	285	.267	.520	.535	.512	.197	.180	18	4
75	.165	145	129	1112	.096	.079	.063	.046	.029	.013	17	75
6	1 .996	.980	'964	'949	·933	.917	.901	·88 ₅	.870	.854	16	6
7	·838	.823	.808	793	778	763	748	733	718	703	15	7
8 9	·688	.674	.660	645	.631	617	·603 ·466	.589	574	.260	14	8
1	.546	·533	.219	.206	'492	'479	'	452	.439	425	13	9
80	'412	399	:387	374	362	349	336	324	.311	.299	13	80
1 2	·286 ·167	274	262	250	'238	227	215	'203	191	179	12	1
3	.056	°156	145	134	123	1112	.100	.089	.078	.067	11	2
4	0 '951	'941	.032	.025 .022	'014	'004	.893	·883	.872	·864	11	8 4
_			932	-	912	.903		_	.873	1 1		1 - 1
85	·854 ·764	.845	.836	827	.818	.809	.800	791	782	773	9	85
6 7	679	.426 .671	.747 .664	739 656	.730 .648	.41 .641	.633	.405 .625	.614 .614	.610 .689	9 8	6 7
8	.603	595	.588	.281	574	.267	559	.222	545	.538	7	8
9	.231	524	.218	.211	504	'498	491	·484	477	471	7	9
90	·464	458	1	'446	'440	435	429	423	417	411	6	90
ű	405	399	'45 ² '394	388	383	377	371	·366	360	355	6	1
2	349	344	339	335	.330	325	320	315	.311	306	5	2
8	.301	296	.595	287	282	278	273	268	263	259	5	3
4	254	·250	247	.243	.239	.236	.535	.228	.224	.551	4	4
95	217	'213	200	205	'201	197	.193	·189	185	.181	4	95
в	177	175	172	170	167	165	.165	.190	157	155	3	В
7	152	150	148	147	145	143	'141	.139	.138	136	2	7
8	134	.131	128	126	123	120	1117	1114	1112	.100	3	8
9	.109	.103	101	.098	.092	.093	.090	.087	·084	·082	3	9
100	.079	.075	.070	.066	·062	.058	.053	·049	.045	.040	4	100
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VALUES OF ANNUITIES

 $O^{M(5)}$

ON FOUR JOINT LIVES OF EQUAL AGE

 $\mathbf{3}_{2}^{1}$ per $\mathbf{5}_{2}^{1}$ cent.

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x	:				a_{xxx}	r ·		,			Diff.	$ _x$
	•	.I	.2	.3	· 4	•5	.6	7	-8		Din.	~
								<u> </u>				
10	14 '881	·872	862	⁻⁸ 53	843	·834	824	·815	805	.796	10	10
1 1	.786	776	.766	756	.746	'737	727	717	707	697	10	1
2	.687	.677	.666	.656	.645	.635	625	614	604	593	IO	2
3 4	·583 ·475	.572 .464	.261 .42	.251 .441	.240	·529 ·418	.218	507	'497 '384	'486	II	3 4
			· -		'429	•	'407	395		372		
15	·361 ·244	`349 `232	'338 '219	·326 ·207	'314 '195	.303	'291 '170	·279 ·158	1267	256	. I 2 . I 2	15 6
7	121	108	.096	.083	·070	.058	.045	032	.019	.133	13	7
8	13 '994	.981	968	954	941	.928	915	902	.888	875	13	8
9	862	·848	.834	821	.807	793	779	765	752	738	14	9
20	724	.710	:695	·681	·667	.653	·6 3 8	·624	.610	595	14	20
1	.581	.566	.221	.537	.22	.202	'492	477	.463	448	15	1
3	433	'418	'402	387	371	356	341	325	.310	294	15	2
4	`279 `119	·263	086	·231	·215	199	183	°167 °004	987	.135	16 17	3 4
25	*			i i						1		i i
6	12 '954 '784	.937 .766	749	.903 .431	·886 ·713	.869 .869	·852 ·678	·835 ·660	·818 ·642	625	17	25
7	.607	.589	571	552	534	.216	498	·48o	461	443	18	6 7
8	425	·406	387	.369	-350	.331	312	.293	275	256	. 19	8
9	·237	218	.198	179	.100	'141	.131	102	·083	.063	. 19	9
30	' 044	'024	004	984	964	945	.925	905	·885	·865	20	30
1	11 845	825	.804	.784	763	'743	.722	.403	.681	.661	2 I	1
2 3	·640	619	•598	577	556	535	514	'493	472	451	2 I	2
4	.430 .214	192	387	.365 .148	'344 '126	.322 .104	.300	·279 ·059	:257 :037	°236	22 22	3 4
35	,									-		
8	10 '993 '767	'970 '744	948	.698	·903 ·675	·880 ·652	·857 ·628	·835 ·605	·812	790 559	.23	35 6
7	.536	512	.489	465	442	418	394	371	347	324	23 24	7
- 8	.300	276	252	.228	204	180	155	.131	107	·083	24	8
9	.029	·035	.010	.986	.001	937	'912	.888	.863	839	25	9
40	9 .814	.789	.764	.739	714	.690	.665	·640	.612	.590	. 25	40
1 2	.262	540	.214	'489	464	439	'413	.388	:363	337	25	1
3	.312 .056	.586 .030	.501	235 978	'210 '952	·184 ·927	158	133	·107 ·849	·823	26	2
4	8 .797	'77I	744	718	692	.666	.639	·613	587	.260	26 26	3 4
45	·534	.508	.481	455	.428	.402	1		-	1 :		1 1
6	270	243	217	190	163	137	376	'349 '083	'323 '056	1296	26 27	45 6
7	.003	976	.949	'923	.896	.869	·842	815	.789	762	27	7
8	7 '735	.708	.681	655	·628	.601	574	547	.21	494	27	8
9	'467	.440	.413	.386	·359	·332	.302	.278	.521	'224	. 27	9
50	197	170	143	1116	.089	.063	.036	.009	.082	'955	27	50
1 2	6 928	.632	·874 ·605	·847	.820	794	767	'740	713	.686	27	1
3	390	363	337	.210	.551 .284	.525 .257	'498 '230	'47 I '204	'444 '177	'417 '151	27	3
4	124	.098	'07 I	.045	. 018	.992	965	· 939	912	.886	27 27	4
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VALUES OF ANNUITIES

 $0^{M(5)}$

ON FOUR JOINT LIVES OF EQUAL AGE

 $3\frac{1}{2}$ per

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9			•										
60		4 .820				-						_	
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2													
8													
4 '647' '625' '603' '581' '559' '538' '516' '494' '472' '450' 22 4 66 '428' '407' '386' '364' '343' '322' '301' '280' '258' '237' 21 65 7 '011' '991' '971' '951' '931' '172' '892' '872' '852' '822' 20' 7 8 2 '812' '793' '774' '755' '736' '717' '698' '679' '660' '641' 19 8 9 '622' '604' '385' '567' '548' '530' '512' '493' '475' '456' 18 9 70 '438' '420' '403' '385' '368' '350' '332' '315' '450' '450' '450' '450' '475' '456' 18 9 1 '934' '919' '903'		104			034							_	
65		3 6/2		.602	.585							_	
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